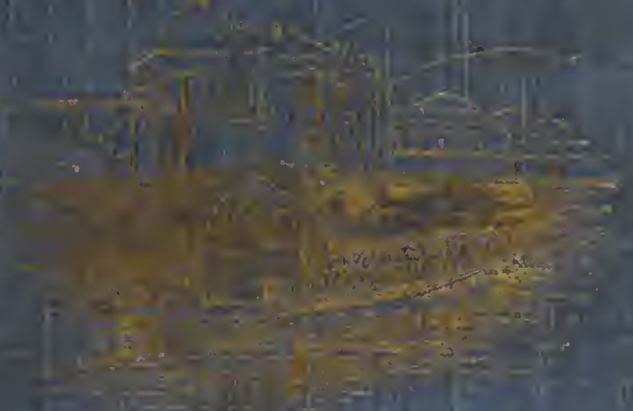
PICTURESQUE KASHMIR



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DR ARTHUR NEVE

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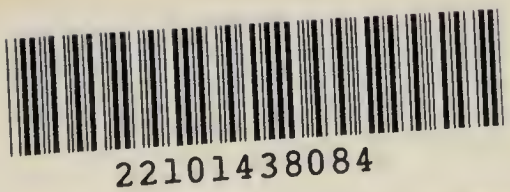
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PICTURESQUE KASHMIR

BY

ARTHUR NEVE, F.R.C.S., L.R.C.P.EDIN.

ILLUSTRATED BY

GEOFFROY W. MILLAIS

LONDON
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PREFACE

Picturesque Kashmir is a theme that has inspired many writers of prose and poetry, including Moore and Shelley. But it is concerned rather with the wild grandeur of forested mountains, secluded glens, and glowing snows than with the interests of animate nature. Many sportsmen have recorded their experiences with the rifle on the rocky crags and desolate plateaux of the Himalayas; but the author's profession is to heal, not to slay, and he does not look at the stately bara-sing, the agile ibex, or the ponderous yak with the eye of a sportsman seeking "heads." Nor has he written much about the picturesque mountain tribesmen who throng the hospital waiting-room. But the book would be defective without at least a brief glance at the humanitarian aspect of one's life and work here, which is, after all, of the most intrinsic interest.

All are familiar with some Kashmir history, with the fact that it has been an enslaved country for centuries, passing from the grip of Buddhists to Hindus, thence to Mohammedans, thence again to Sikhs, and yet once more to Hindus before the present era of general toleration. How the Pathan followed the Mogul, the Sikhs ejected the Pathan, and the Dogra purchased the Sikh provinces of the Himalayas from the Indian Government need not here be described. Under any of these successive rulers the Kashmir peasantry were enslaved. It was the heroic John Nicholson who accompanied Maharajah Gulab Singh to witness the transfer of power to him; and from that date, though the British rulers of India remained supreme, they could no

longer disavow responsibility. While abstaining from official intervention, Christian governors like M'Leod, Montgomery, and Edwardes gave liberal private assistance in starting a medical mission in connection with the Church Missionary Society.

The first doctor sent in 1863 was a man of the stamp of Carey or Horden. An indomitable Scot, who had earned with his own hands the means of securing a university education and medical degree, Dr. Elmslie worked for some years in Kashmir, relieving much suffering and winning a wide reputation as the pioneer of Western medicine and surgery. Till that time there had been absolutely no hospitals, no kind of skilled medical relief, in the whole region. His work was annually interrupted by the astonishing order that no European should remain in Kashmir during the winter; and his death, after eight years of labour, was by some attributed to poison, for he had made many enemies by his outspoken condemnation of the then prevailing tyranny. But he left a Kashmiri vocabulary as well as his medical work to his successors, by whom the mission has been carried on in the same spirit. It was General John Nicholson's nephew, Dr. Theodore Maxwell, who took up the vacant post, and for his uncle's sake the Maharajah granted a site for the hospital, and built some sheds for the sick. He was succeeded by Dr. Downes, who had resigned a commission in the Royal Artillery in order to become a missionary, and under him the work was extended and consolidated. During the terrible famine, 1877-1880, food was imported, relief works established, and an orphanage started. Soon afterwards the first educational attempts were made, against strong official opposition. Dr. Downes' health giving way, I was appointed in 1881, and was joined by my brother, Dr. Ernest Neve, in 1886.

The Kashmir State has for many years had its own hospital and dispensaries, and also State schools. But the mission which was the pioneer in these matters, as well as in linguistic work, female education, etc., still keeps the lead. There are now nearly a thousand scholars in the mission schools. The mission hospital has been completely rebuilt and considerably enlarged to accommodate over one hundred beds. A handsome chapel has been built. We have also erected and superintend the large State Leper Asylum. During the past ten years over three hundred thousand visits have been paid to the hospital by patients, and *thirty thousand surgical operations* have been performed. These figures prove that the people of Kashmir, both Mohammedan and Hindu, appreciate the work that is being done whether by clergy or doctors. But while for the last thirty years in Kashmir the word "Christian" has been associated with the thought of *philanthropy*, during the last ten or twelve years the word "English" has become happily associated with the ideas of justice and freedom.

It would be difficult to exaggerate the benefits bestowed on the peasantry by the work of the Settlement department under Mr. Walter Lawrence and his co-adjutors; or the impulse given to civilisation and commerce by the reorganisation of the other departments of the State by British officials. Roads have been made, waterworks constructed, and many other public works put in hand. Within a few years lofty ranges will have been tunnelled, and a mountain railway will connect the Valley of Kashmir with the Punjab. Progress has, indeed, been rapid during the last decade. But even such undertakings as the railway are easier than the changing of character.

The Kashmiris cannot in a few years throw off the habits

of a race down-trodden and despised for centuries. They are treacherous as the Pathan, without his valour; more false than the Bengali, but equally intelligent; cringing when in subjection, they are impudent when free. Yet we know that education, freedom, and true religion can effect much; and so we, whose

Kashmir Mission Hospital

lot is cast here, may work on, knowing that our labour shall not be in vain in the Lord, but that righteousness and love shall prevail.

ARTHUR NEVE, F.R.C.S.Ed.

Mission Hospital, Kashmir.

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INTRODUCTION

It does not come within the scope of this work to describe the people of Kashmir. For the past eighteen years the author's work as a medical missionary of the Church Missionary Society has lain among them, and it has brought him into contact with all classes, from H.H. the Maharajah downwards, and with all the many races from the Dogra of the south to the Thibetan of Ladak, or the Chilasi and Chitrali of the western frontier.

It is in the mission hospital that one comes into close individual relations with all the various races of these wide dominions. It is a centre to which sick and suffering come from all parts, especially those requiring surgical help.

A few figures are necessary to show the extent of the work. Over thirty thousand patients a year are treated, of whom twelve hundred or more are received into the wards, and gratuitously fed. Between three and four thousand surgical operations are performed annually. As a hospital, we endeavour to make the work thoroughly scientific, doing all we can to secure the best results; and as a missionary institution, we endeavour to work it in a spirit of sympathy, getting into touch with the in-patients and teaching them the truths of our holy religion.

> There lies no desert in the land of life;
> For e'en that tract that barrenest doth seem,
> Laboured of thee in faith and hope, shall teem
> With heavenly harvests and rich gatherings rife.

My predecessors had made their mark in the country twenty years ago, but it is since Dr. E. F. Neve joined me, and under the new political *régime*, that the institution has developed to its present proportions. Year by year, new and substantial wards have replaced the former mud huts; a beautiful hospital chapel has been built, and at present we are constructing a new out-patient department, with operating rooms, on a scale and in a style more adapted to the extent of the work and to modern surgical requirements. At times we make tours in outlying parts of Kashmir, doing both medical and evangelistic work as opportunity affords; and it was in the course of such journeys, in some of which we have been accompanied by Mr. G. W. Millais, that the idea of joint-authorship grew up. His beautiful platino-types are well known in India, and do all that can be done without colour to portray the marvellous scenery of these Northern Himalayas. To his brother, Mr. J. G. Millais, we are indebted for the interesting and characteristic frontispiece.

ARTHUR NEVE.

June, 1899.

PICTURESQUE KASHMIR

CHAPTER I

THE OUTER HILLS

Throughout the whole sweep of the mighty mountains which rise as a wall between India and Thibet there are peaks of the greatest magnitude, some of which may be seen on a clear day from the plains glistening in the morning sunshine like the battlements and towers of some fairy city built of purest marble; the misty atmosphere, which veils the lower and nearer hills from sight, but serves to enhance the apparent height of those snowy summits. The special feature of the Kashmir Himalayas is not that the mountains are higher, for none in Kashmir quite rival the height of Everest; nor that the river scenery is grander, for the gorge of the Sutlej is not surpassed by anything further west; but it is the combination of the broad sweep of fertile alluvial plains with the grandeur of the mountains, and the contrast of the impetuous cataracts in rock-bound ravines with the calmness of the placid Jhelam winding its way through fields and hamlets, and spreading out into the mirror-like lakes which are such a feature of the Happy Valley. This it is, with the pleasant climate, and

the comparative comfort and freedom of camp life in Kashmir, which attracts so many to spend the summer months there.

Till the last few years the paths which led into Kashmir from Jammu across the Banihal Pass, or from Gujerat across the Pir Panjal, almost rivalled in popularity the road, then but a bridle-path, along the Jhelam valley from Murree. In those days there was no tonga service, and the journey occupied the best part of a fortnight; paths were of the roughest description, and there was little accommodation, and that very poor, in the bungalows along the routes; but these drawbacks were almost made up for by the beauty of the scenery.

Jammu, the capital of the Maharajah of Kashmir, stands quite on the outermost range overlooking the Punjab, and, though now the terminus of a branch railway, is still one of the most oriental and picturesque of towns. The Tavi forces its way through the narrow gorge below the town, and was formerly only crossed by a bridge of boats, which was frequently swept away by the sudden floods of the river. This is now replaced by a fine bridge. The cliffs which overhang the river are crowned with picturesque buildings, most prominent of which is the palace built by the late Maharajah, and temple spires jut up in great profusion, for the rulers are Hindus, and lavish in their donations to the Brahmins.

The streets of Jammu are narrow, but gay with colour and with all the varied attractions of an oriental town, where the wares of Thibet are displayed alongside those of Kabul or the gay chintzes of Bombay, where elephants with silver howdahs

A Kashmir Camp

jostle with heavily laden camels, and where the men of a dozen different tribes, distinguishable at a glance by their dress, may be seen grouped at the street corners.

The attire of the Dogra gentry is elegant and usually tasteful in colour. A coloured jacket edged with embroidery, and often, in winter, lined with fur, is worn over a loose-sleeved shirt of fine linen. The ample coloured muslin turban, primrose yellow being specially fashionable, sets off the well-formed soldierly features.

From the lofty terraces of Jammu one looks west over the plains. To the east and north rise the Panjal mountains, not as one steep wall, but in a series of ridges with intervening valleys gradually rising higher.

The trend of all the mountains is from south-east to north-west; not only the general direction of the chain, but also of the individual ridges, and these also correspond with the strike of the strata. The longitudinal valleys parallel to the ridges are often wide and fertile.

The larger rivers, such as the Ravi, Chenab, and Jhelam, have to force their way out of the mountains across the general direction of the strata. From this cause we get very picturesque and wild gorges where the rivers have cut deep, almost vertical, cliffs through the sandstones and conglomerates of the Siwalik rocks. Even the smaller side streams, sometimes swollen into fierce torrents by sudden rains, have scarred the country deeply, for the rocks are soft. On the first march from Jammu towards Kashmir one crosses numerous narrow ravines, separated by steep sandstone ridges. In the ravines are palms and bananas, and on the

hillsides fir trees are interspersed with oleanders through the thorny jungle.

The loose sand and boulders of the valleys are as troublesome as the steep, rocky hills are difficult. But beyond these, the next march takes the traveller into pleasanter scenery, where abundant rains clothe the hillsides with perpetual greenery, and the labours of past generations have levelled terraces on the steep slopes, and little hamlets may be seen half-hidden by the abundant crops of Indian corn. Snowy mountains come in sight up the valleys, and as the path ascends pine forests begin to cover the hills.

Where the strata have been laid bare by landslips, or deeply cut into by the rivers, one sees red and purplish clays, with broad bands of grey or dark reddish sandstones often tilted very steeply. Many of these rocks are of extreme hardness, and remain standing like massive buttresses when the intervening softer beds have been worn away. In the Jhelam valley, on the road in from Murree, the scenery derives much of its picturesqueness from the bold outlines of the strata. The general characters of the outer hills from Jammu on the east to Murree on the north-west are very similar, as also are the towns and villages.

Rajaori is perhaps the most interesting of the towns; it is the principal place on the old Pir Panjal route to Kashmir. Travellers stay in the old Mogul gardens opposite the town. Splendid plane trees shade the ruinous summer-house used by the great Delhi emperors on their way to Kashmir. Below is the clear silver stream, which catches up the tints of its broad, pebbly

bottom, and shimmers with light as it ripples past the old town. The old sarai and bastioned walls, with lofty houses and temples, rise in terraces up the opposite slope. The streets are narrow and dirty, but beyond the town there is a green plain from which can be seen the gleaming white of the Pir Panjal; nearer are the dark woods of the Rattan Pir, with the green spurs overlooking the town. The vegetation of the valley is almost tropical, plantains growing in profusion alongside the deodars and walnuts of a more temperate climate.

The traveller Bernier was among the retinue of Aurangzebe and went to Kashmir by this route. He describes the luxuriant forests. "I saw hundreds of trees plunged into abysses down which man never ventured, piled dead one upon another and mouldering with time; while others were shooting out of the ground and supplying their places. I observed also trees consumed with fire; but I am unable to say whether they were struck by lightning, or ignited by friction when hot and impetuous winds agitate the trees, one against another, or whether, as the natives pretend, trees when grown old and dry many ignite spontaneously." Probably then, as now, the hillmen fired the grass when dry to improve the grazing for their cattle and thus caused the forest fires they so ingeniously explained.

A few marches from Rajaori, and still further among the mountains, is the town of Punch, the capital of Rajah Buldev Singh. It is not a very accessible place. The route by the Punch river is of the roughest description; narrow, stony paths wind along the hillsides, sometimes far above the river, then down by its brawling

waters; sometimes crossing side streams by bridge or ford, and then again ascending to cross low spurs.

The river leads right across the strata, and has cut its way down through the beds of brown sandstone, rarely interstratified with lime; sometimes a harder bed is left projecting as an

View on Tragbal

obstacle in the river, causing fierce rapids which hollow out deep pools in the softer rocks below. Most of the hills, though deeply cleft by side valleys, are of about the one height, showing either that the force that elevated them must have been very gradual and uniform over a large area, or that they were

originally part of a huge plateau, of which but the spines and ribs now remain.

The fort of Troch is on the summit of one steeply scarped mountain, with a table top; it must have been a position of great importance in the tribal wars of a century ago.

At Punch the valley opens out, and the river, instead of forcing its way past opposing bluffs, flows more quietly in the trough of a broad valley parallel to the main ridges, and separating the Rattan Pir on the one side, which represents the upturned northern edge of the Sirmur series of tertiaries, from the older rocks of which the Pir Panjal on the north side of the valley is mainly composed. The town of Punch is on a low plateau overlooking the river, and commanding a wide view. Up the Sooran river the loftiest peaks of the Pir Panjal are seen towering up over the nearer pine-clad ranges. Most prominent of all is Tutakutti, 15,550 feet high, a splintered pyramidal peak rising out of the serrated range, with very precipitous cliffs on the south side. The Sooran valley is broad, and so level as to suggest its having been at some time the bed of a lake. The boulders seen in the valley below Punch might have been brought by ice from the Pir Panjal, and if glaciers existed, as seems probable, the gorge below Punch may at some time have been dammed by a side glacier.

The old Sikh fort and the more modern buildings of Rajah Buldev Singh's palace give a striking foreground to the view. The Rajah is a sportsman; as quick with his spear when pig-sticking, as with his rifle when hunting the bears which abound

in the dense forests which clothe the north side of the hills. In the menagerie he has a varied collection of animals, from the royal tiger to hyenas and pigs. On one occasion, when visiting him, a wild boar was let loose near our party, and some agility was displayed in avoiding its tusks as it rushed through the midst of us, followed by the Rajah's dogs.

The best road to Punch is that which crosses the Haji Pir and joins the Murree cart road at Uri. The modern traveller has no difficulty in selecting his road from India to Kashmir, for he dashes through the deep valley of the Jhelam in a hill cart at the rate of eight miles an hour, with relays of horses every five miles, and thus covers the whole distance in two days, which his predecessors required a fortnight to travel. The very swiftness of the transition makes the scenery in a general way more striking, but there is no leisure to linger over the details of its beauty.

In the cool morning one is traversing at full gallop the straight road, bordered by acacias, that crosses the Pindi plain. It is not yet sunrise, and the distant peaks look pale blue against the lemon-yellow eastern sky; the nearer hills are a deep indigo, with here and there lighter tints where wreaths of smoke rise from the numerous hamlets hidden away in the jungle; in the plain are fields of ripe corn, partly cut. Swiftly ascending the low hills one soon reaches a different atmosphere; the stately *pinus longifolius* covers the slopes, and maidenhair ferns cling to the rocks. Before noon the traveller is at Murree, and he may be enveloped in clouds, and feel the damp chill of the mists which roll through the dark

forests of oak, horse-chestnut, deodar, and cypress. From the ridge, with its commodious hotels, one gets a glimpse of the plains far below, where toilers are sweltering in the sultry noon, and then in front comes the expected view of the mountain ranges. The snowy line of the Pir Panjal stands up like a wall far away to the east, overlooking the billow-like masses of the outer hills we have already described. In early summer, snow covers the summits as well as the hollows, where a few small glaciers linger. The range is remarkably even in height, none of the peaks exceeding 16,000 feet, while few are below 14,000 feet. At intervals there are great rock masses which stand out on the Punch side like huge bastions.

In a line with the Pir Panjal, but separated by the Jhelam valley, rises the Kaj Nag range, home of the markhor. Its splintered peaks, with their giant slate precipices, afford almost inaccessible haunts for bears and wild goats; though it may be feared that but few of the best horns now remain.

In the depths of the valley, 5000 feet down, the Jhelam winds its tortuous course; and soon the tonga bugle blows, and one is swinging round corner after corner down the great sweeps of the descending road, towards the river which may be seen as a mere ribbon of emerald and silver far below. At Kohala the road crosses into Kashmir territory, and now winds along above the thundering torrent, sometimes passing through short tunnels. By the evening "Domel" is reached, so called because it is the meeting place of the Jhelam and Kishenganga rivers. The colour of the water varies very much, and the two rivers are seldom the

same colour. In rainy weather the Jhelam is less muddy than the Kishenganga, as much silt is deposited in the Wular Lake, which acts as a sort of settling tank. But in the dry autumn weather the Kishenganga is a transparent peacock colour, while the Jhelam is an opaque green owing to the amount of organic matter it holds in suspension. Both rivers are here bridged, and the small town of Mozufferabad is seen a mile up the valley opposite Domel, with its old Mogul serai, and one or two temples and a fort.

In olden times the whole of these districts were ruled by petty chiefs, each tribe being at enmity with its neighbours across the nearest ridges. Occasionally they would all join to fight the Sikhs, or any other intruders on their mountain fastnesses.

The Black mountain frontier, with its "Yagi" Pathan tribes, is but a day's march west of this; so the path into Kashmir was formerly very insecure.

The French botanist Jacquemont was furnished by Ranjit Sing with a strong escort to protect him from captivity or from blackmail. The Rajahs of Kattai, Uri, and Rajpore, etc., are descendants of the ancient chiefs of the Bomba and Kakar tribes, and have now subsided into the position of petty "jagirdars."

Domel is specially interesting geologically. The Jhelam here makes a very acute bend; above Domel it flows for some distance parallel to the strike of the rocks. At the angle it has cut deeply into the soft shaley ridge which separates it from the Kunhar river of Khagan. Probably in time (geological) it will complete the excavation, and then the Kunhar river, which is at a considerably higher level, will pour in a cataract through

the gap. One cause of the acute bend made by the river is that the strike of the rocks, which for so many hundreds of miles has been S.-E. and N.-W., retaining its direction across the great valleys of the Sutlej, Chenab and other rivers, now changes to become N.-E. and S.-W. Upon this change of strike much of the scenery of the North Punjab depends.

On the next day's journey by tonga we gradually ascend 3000 feet, and pass through successive stages of climate, till surrounded by vegetation quite European. Bernier notes in his letters (A.D. 1660), "I find myself transported on a sudden from a torrid to a temperate zone, the mountains we were traversing being covered with every one of our plants and shrubs; I had almost imagined myself in the mountains of Auvergne."

Early in April, when the wheat is ripening at Domel, it is, at Chakoti, only in the ear; at Uri, though the fields are green, the deciduous trees are almost leafless; and at Baramulla snow may be lying in the hollows, the fields are bare, and there are all the signs of early spring.

Along the road we see the most impressive river scenery. Steep mountain sides close in, flinging out massive buttresses of hard rock into the current, which sweeps past with unceasing thunder. Below Uri, the river gorge is so narrow that a stone may be thrown across to the opposite cliff. The rocks dip vertically to the water, which has cut its way hundreds of feet down where the stone is hard enough to turn a chisel. To effect this something more than water power was needed; and the boulders and smaller rocks or pebbles swept down from the various side nullahs supplied

the grinding tools. The river as it leaves Kashmir could never do this unaided by the pebble-laden mountain torrents from Baniar or the Kattai nullah.

From Domel to Baramulla there is no communication between the right and left banks of the river except by means of frail rope

A Rope Bridge at Rampur

bridges, such as that shown in the picture. These are made of twisted birch twigs, secured more or less by V-shaped cross pieces. They swing about with the strong breeze which often blows down stream, and are seldom repaired until at the last stage of

dilapidation, so those who use them require the qualities of a sailor rather than those of a mountaineer.

Another noteworthy feature in the landscape is the recurrence at various levels above the river of alluvial plateaux, on which the only cultivation is seen. These plateaux are usually of boulders, many of which are of gneiss or granite brought by rivers or ice from distant parts. Most of the rocks as far as Uri consist of Murree sandstones, which give evidence to geologists of tremendous compression and distortion. Fragments of fossil palm leaves have been found near Chakoti, but no other fossils. Above Uri there is tremendous folding of the narrow bedded shales and limestones which are seen in section along the road. Then one comes to the older slates of the Pir Panjal series, which tower up above Rampor in stupendous precipices, among which deodars find a precarious footing. We might write of the Baniar ravine—"A wild romantic chasm that slanted down the steep hill athwart a cedar cover, a savage place, as holy and enchanted as e'er beneath the waning moon was haunted by woman wailing for her demon lover," the poet evidently referring to the Rakishas, or demons in human form, so popular in Kashmir folk tales.

At last the valley widens out, a few low hills are passed, the cottages are gable-roofed and thatched, and Kashmiris may be seen working in the rice fields.

This is Chota Kashmir; probably originally part of the great plain of Kashmir, until cut off by the great Karewa deposits which now shut it in on the east.

The river, no longer a fierce rapid, broadens and ripples

over a pebbly bed; another corner, and then we pass the mosques and merchants' houses of Baramulla, and draw up before the dak bungalow, in front of which numerous boats

A Kashmir Cottage

are moored to the bank, ready to take any traveller up the waterway, for we are in Kashmir.

A vale of purple glens and snow-clad streams,
Broad meadows lush with verdure, flower and fruit,
The broad-leafed maple towering in his pride,
The temple's noble ruin on the height.
The poplar lines that mark the homestead there,
Calm lakes that bear the lotus on their breast,
A hundred miles of snow-clad mountain peaks
On either side uprear their heads to heaven,
And, flecked with light and shade and yellow foam,
Broad-bosom'd Jhelam wends his stately way.

—*Tollemache.*

CHAPTER II

THE GREAT KASHMIR WATERWAY

THERE can be few pleasanter contrasts than that between the long jolting drive in a hillcart, deluged with dust and half-

Kashmir Dungas

deafened by the "rattle of the tonga bar" which mingles with the thunder of the torrent, and the peaceful stillness of the boats

which glide along the placid Jhelam of the valley of Kashmir. The boats are temporary homes. All one's goods and chattels can be arranged on board, and in comfort one can loll through the most beautiful scenery. They are not like English boats or barges; more on the pattern of long, flat-bottomed ferryboats, with matting huts erected upon them. In the front is an apartment perhaps eighteen feet long and six feet wide, with walls and roof of reed mats. The side mats can be rolled up, when all sense of narrowness and confinement disappears, and each traveller may fancy himself lord of all he surveys. He can land where he likes, and stroll along the grassy banks unhindered by fences or proprietary rights; here and there are shady orchards of apple, pear, or mulberry trees, in any of which he may pitch his tent, if he prefers sleeping at night on *terra firma*. Fish, too, are plentiful throughout the summer, and well repay the skilful angler, who may wield his rod when and where he pleases. Freedom is the keynote of the boat life, for there is an hundred miles of waterway from Baramulla to the Lolab, or up the main river to Islamabad.

In addition to the rivers there are wide lakes, on whose shores are pleasant spots for camping. Many Europeans residing permanently in Kashmir live in well-built houseboats, many of which are luxuriously fitted up. Some have a drawing-room and dining-room, with bed- and dressing-rooms, and a promenade on the upper deck. Kashmiri wood-carving, carpets, and embroidered curtains make a most habitable *tout ensemble*. Add to this a well-stocked library, and the traveller who thus glides quietly up

the broad river may be envied as he watches the ever-varying views of broad, iris-covered plains, dotted with little villages, groves of stately plane trees and reedy jheels, haunts of the coot and mallard, herons and geese. Beyond these are rising terraces of rice and wheat, then wide low plateaux, which sweep up in

Life in House-boats

a gentle curve towards the forested mountains, and then above all the gleaming white of the lofty snow fields. Going up stream the boat is slowly towed by boatmen walking on the bank; going down, it floats with the current, just helped and guided by the broad paddles of the crew. Women and children are reckoned as

able-bodied seamen, and cheerfully do their share of the work, trotting merrily along the bank, with loops of the towrope over their shoulders.

The river Jhelam, with all the tributaries of the central and east parts of the valley, flows into the Wular Lake, which may be regarded as its settling tank, a device of Nature to

A Canal in the Suburbs

prevent the rich, loamy deposit of the muddy waters being exported to the Punjab. They flow into it a coffee colour and emerge a semi-opaque sage green; and at the mouth of the river miles of marsh, which becomes in the autumn dry land, show how much soil is being rapidly deposited. In the early summer the lake waters spread far and wide beyond their legitimate shore,

and many of the villages are left like an archipelago along its southern portion. But on the north it has mountainous shores, near which soundings may be taken at thirty feet or more. There is usually a gentle air in the morning from the Baramulla side which barely ruffles the surface of the lake, and just serves to waft the dungas across the stretch of six or eight miles

On the Shores of the Wular

from Sopor to the river mouth. But in the afternoon a stronger breeze sets in down the valley, and if thunder is about and clouds settle on the Rajdiangan Pass and Haramouk, then storms may be expected. One moment all is still and the surface of the lake is glassy, the next a cat's paw is seen moving rapidly along, the mirror is shattered into a thousand

pieces, and in a few minutes the spray may be flying from the crested breakers.

Most charming of camps is Zerimanz, a pebbly bay, with rocky points plunging down vertically into the clear water. On one cliff is perched an osprey lazily basking in the sunshine, and occasionally swooping down on the shoals of tiny fish which swim near the surface. Half a mile away from the shore flocks of teal almost blacken the surface of the lake in patches. They are too wily to allow of the near approach of the sportsman. Close by the beach the gulls are hovering about, screaming when disturbed by a passing boat.

Above the shingle there is a turfy sward, where rose bushes intermingle with the clumps of purple and white iris. The top of the rock is crowned by the old shrine of Shukrudin, whose name the Mohammedans invoke as they propel their boats across the lake. Beautiful orange lilies grow in profusion among the rocks in the early summer. It is pleasant to hear the rhythmical splash of the waves on the beach below one's camp at night; the sound mingles with one's dreams, and we are transported across the "black water" to the homeland of the white chalk cliffs where the south-west gales are rolling huge breakers up the channel, and the beach is ever dancing to the measured impulse of the waves. On the north-east of the lake the spurs of Haramouk come right down to the shore, and the snowy summit, though in reality fifteen miles further off, seems to overhang the water in which it

is so vividly reflected. We recall the lines so appropriate to the view—

> Whose head in wintry grandeur towers
> And whitens with eternal sleet,
> While summer in a vale of flowers
> Is sleeping rosy at his feet.

As a navigable river the Jhelam springs suddenly into existence at the east end of the valley near Islamabad, where several large mountain streams unite. The Bringh, the Sandrin, the Arpat, and the Lidar, all join within a mile of one another, and form a deep and comparatively sluggish channel in which the largest size of barge or houseboat may be floated. Some of the largest of the side streams rush out of the hillsides in full volume. The district is a limestone one, and, as is the case in the Juras of Switzerland, much of the drainage is underground. For purity and volume the springs of Vernag or Achibal may be compared with the famed source of the Orbe, which, after leaving the Lac de Joux, flows for miles underground and gushes out of the foot of a cliff at Vallorbe.

The preference for picturesqueness may be given to the Kashmir springs, which are not defaced by manufactories and railways, but have been adorned by the Mogul emperors with marble tanks and conduits, summer-houses and flowery terraces, while chenar groves shade the green sward on which the traveller's camp is pitched.

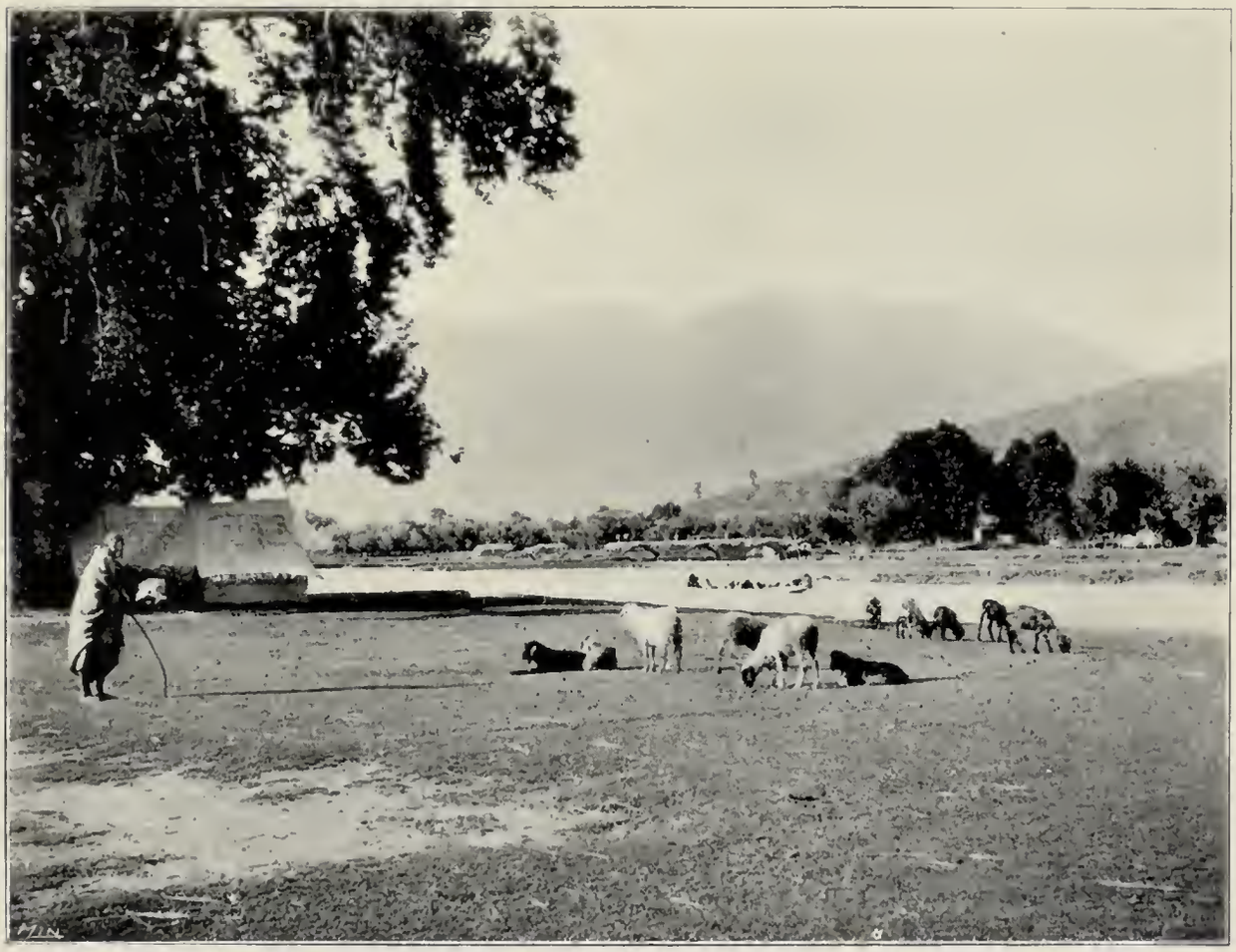
At Vernag there is an octagonal tank of great depth. Words cannot describe the limpid opalescence of its pure

waters, which vary from a deep indigo—where reflecting the shadowy archways around—to amethyst and turquoise in the lights. In autumn the golden tints of the trees are caught up by the ripples, and blend with the silver flashes from the shoals of fish which move quietly here and there in search of food. These are sacred fish protected from all enemies, and fed by the Brahmins, who come morning and evening to recite their mantras by the holy tank.

The alluvial plain which borders the river from Islamabad to Baramulla is not interesting, for, almost as level as a cricket field, it is liable to inundation, and much of it is marshy, crops are neglected, and trees are scanty. The Jhelam flows with serpentine curves between its mud banks, so that the journey by river nearly doubles in distance that by land, and the boat is apt to stick at intervals upon sandbanks when the water is low. But in spring, when the banks are brimming full, when the fields are bright with mustard and poppies, and alongside every little dirty village splendid clumps of purple iris are seen, even the alluvial flats claim the charm of colour and distance.

The Pohru river is certainly prettier. It flows from the extreme west of the valley, and is navigable in summer from Dubgam, below the Wular Lake, for some twenty miles up to Awatkula, where it becomes too shallow and swift for even the smallest "dunga." Picturesque shrines, half-hidden in dense groves of Kabuli poplar or elms, and villages, shaded by ancient mulberry trees and chenars, lend interest to a journey up this

little river, and the blue, forested mountains close in on either side. Further up, the river flows through a valley resembling the Trossachs, with low, pine-clad hills and grassy glades, where the silver-tailed bird of paradise fly-catcher darts among the bushes, and the grey wagtail flutters by the stream. On the



At the Ganderbal Ferry

main river, the kingfisher, resplendent with his bright turquoise-blue back and orange breast, abounds and is very tame, often perching on the roof of boats, or on the bank quite close to people. Still more friendly is the bulbul, with its perky crest

and yellow breast; it flies into boats and houses, and picks up grains of rice or crumbs, and in winter becomes so tame as to take crumbs from one's hand. Several of the side rivers are navigable for a short distance; large boats can go up the Sind as far as Ganderbal, where there is a pleasant camping ground under a grove of splendid chenars. This is a favourite haunt of anglers in the summer, when mahseer of the largest size may be caught in the deep pools below the ruined piers of the Mogul bridge. In the upper part of the valley, the Veshau, which joins the Jhelam below Bijbehara, is navigable for one day's journey as far as the pretty village of Khaimu, where there is excellent fishing at some times of the year.

Beside the Wular there are two other lakes of smaller size, but greater beauty. The Manasbal Lake nestles against the mountains, where, at the foot of the Sind valley, a spur, partly of dolomite, projects into the plain. The lake is fifty feet deep, so probably its bed is below the rock gorge at Baramulla which is the present exit of the valley. It is likely that these lakes are due to local subsidence of the underlying strata. At the upper end of the lake are some beautiful chenars growing in terraces up the hill-side, giving ample shady camping grounds, from which the most enchanting views may be seen of the far-stretching circle of the Pir Panjal, whose snowy summits are reflected in the clear blue water.

The Dhal Lake, being close to the city, is far more frequented than the others, and certainly no less beautiful. On three sides a mountainous amphitheatre backs it, whose summit is several

thousand feet above the water. These precipitous basaltic crags, resembling, on a much grander scale, those of Salisbury Crags at Edinburgh, look down upon fertile villages surrounded by orchards, and upon the famed gardens constructed by the Delhi emperors, which descend in terraces to the shore of the lake. On the side toward the city the shallow water is occupied by

Early Morning on the Dhal Lake

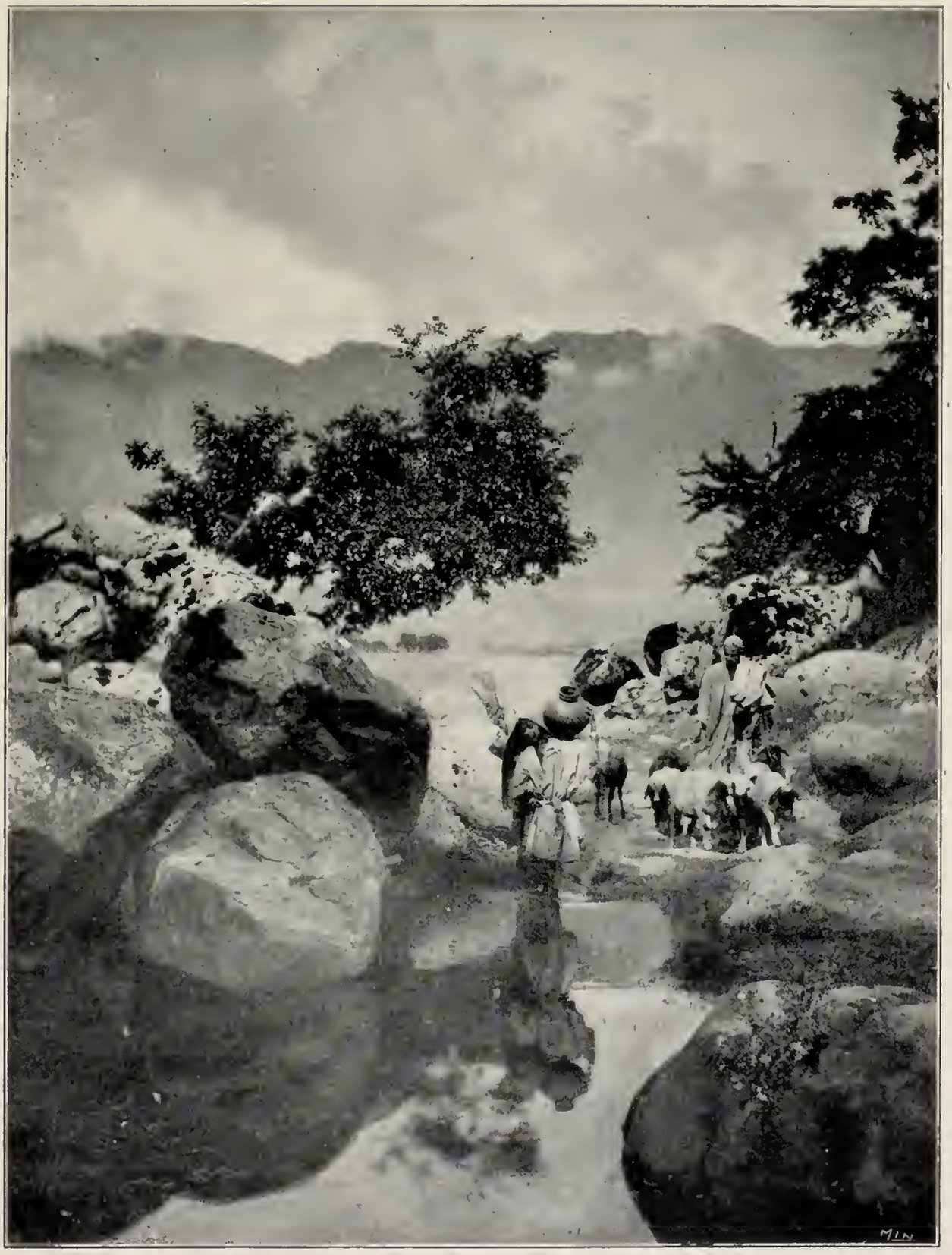
floating gardens, and narrow strips of reclaimed land, on which are numerous cottages hidden away in their orchards of quince, and shaded by poplars and willows. The lake, nowhere deep, is crossed by one or two embankments, and is divided into three large sheets of water, but even these are so covered by aquatic plants, especially by the splendid lotus with its velvety blue-

green leaves and pink flowers, that by the end of summer not very much remains as open water.

There are several square miles of floating gardens scattered over the lake. Each strip is about four feet broad, and twenty or thirty paces long. It derives its buoyancy from the air cells in the roots of water plants. Melons,

Making Floating Gardens

cucumbers, tomatoes, and egg plants grow luxuriantly on the gardens. In one of our illustrations men may be seen filling a boat with water-weed which they drag up from the bottom by twisting a crooked pole round. The weed is then arranged in hollow cones upon the floating strip, and each cone is filled with rich soil. The process is as satisfactory as it is



The Ford

simple and economical; no watering is required, for the roots stretch down into the lake. When rowing slowly among the intricate canals between the city and the lake, subjects for artists are seen at every turn. The women paddling to market, with their garden produce, two or three boats abreast,

Amongst the Lake Gardens

each with a woman sitting in the extreme front, almost in the water, and gossiping with her neighbour as she paddles. Babies abound, and may be seen lying in their mothers' laps, or kicking about in the bottom of the boat, in great risk of sudden transformation into water-babies.

Little ferryboats take sheep across to adjacent islands, and sometimes cattle are seen swimming across a canal in search of better pasture. Each thatched homestead has its own little farmyard, vegetable garden, and orchard. In the spring broad masses of yellow mustard flower before the trees are in leaf. Then comes the brilliant pink of peach blossom which ushers in the emerald verdure of early summer. In autumn the deep magenta of amaranth and cockscomb contrasts with the crisp yellow leaves which flutter off the trees. The clear water is of a deep green tone, and reflects every detail of the distant blue hills, as well as of the trees upon its banks, except where it dances in the sunlight with the ripples of a passing boat.

> Surely here, O Glorious Lord, as writ of old thou art "a place
> Of broad streams and rivers" glancing in the brightness of Thy face;
> Surely from these mountains, Thou, O Lord, wouldst speak with still
> small voice,
> To men's hearts if they would hear, and, for they are Thy works, rejoice.
>
> —*Tollemache.*

CHAPTER III

THE CITY OF THE SUN

Srinagar, the "City of the Sun," is not merely capital of Kashmir, but the only large town in the valley. In spite of dirt and squalor, it is one of the most picturesque cities in the world. It has few handsome buildings, and not a single good street; so as a town it is quite fifth-rate, and yet its situation on the banks of a broad river, dominated by the Castle rock and the Takht-i-Suleiman hill, is very striking. Its chief highway is the river, which is always lively with traffic, and, on such an occasion as the Maharajah's state entry, offers a splendid spectacle. The royal barge is ornate with lacquer work and gilding, and is urged up the river by thirty scarlet-clad boatmen. Some of the boats have a central dome-shaped canopy, in which sits a high official; and as the procession passes the ghats and bridges, the banks are lined with spectators who shout a welcome to their ruler, while little bands of women sing in chorus their somewhat monotonous chant of praise. Such is the scene of our picture.

Passing up the river we see a good deal of the life of the people. The ghats are among the chief market-places. Women are selling vegetables and fruit. Here is a barge laden

with rice, round which gathers a dirty crowd, each man clamorous to obtain his day's supply speedily; there is a boat full of faggots. "Omnibus" boats ply up and down the river from bridge to bridge, laden with passengers packed cheek by jowl, and weighted till the gunwale is almost level with the water.

State Entry of the Maharajah

The "shikari" boats of the richer citizens or of European visitors are swiftly propelled by numerous paddlers, who shout "Sahib ko" at intervals as they alter their stroke, and are quick to abuse any other craft that hinders their way. On

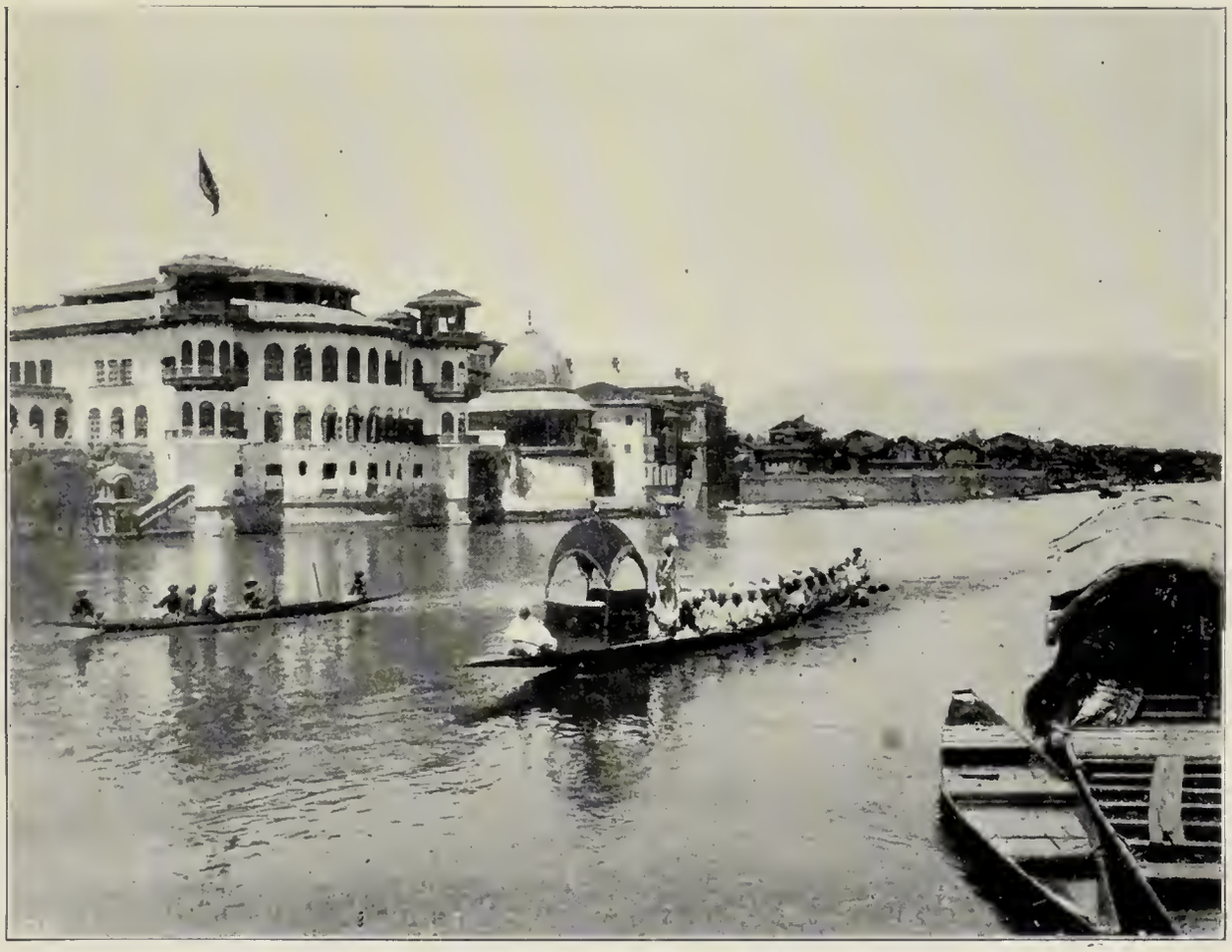
the landing-places groups of women chatter merrily as they fill their water jars and wash their little brown babies. Among the sombre, dirty dresses of the Mussulmans, the bright "pherans" of the Hindu women—who rejoice in scarlet, terra-cotta, green, and violet—catch the eye. They appear to lead

A Temple in the Chenar Bagh

an easy, pleasant life, these Kashmiris; unburdened by care for the morrow, free from the crush of competition, undeafened by the clatter of machinery; food is cheap, their wants few, and they can lead a natural animal life, with as few cares as they have hopes.

The architecture of the city is very varied. Some of the older buildings are of the Mogul period, or even earlier, such as the tomb of King Zain-ul-abadin, a great mass of brick work, with a ruinous dome. The modern Hindu temples are such as one might see at Benares, with curved pyramidal spire, covered with silvered plates, which flash in the sun. Finest of the many mosques is the Shah Hamadan, a stately square building, built entirely of cedar wood, and with an elegant spire of open woodwork. All around are the covered ways in which the crowds of worshippers assemble on Fridays. Much of the building is carved—the doors, lintels, and a band under the roof with elegant pendant lotus ornaments. All over Kashmir one may notice simple rude wood-carving, often of very graceful patterns. The ordinary village carpenter, who makes the ploughs, and with an adze shapes the cottage door out of a solid block, will often be able to use his chisel skilfully in the traditional patterns of the district. Sometimes it is a mosque door on which he will lavish his art; more often the shrine of the local saint. The material in such cases used always to be deodar. At one time cedar forests covered the lower hills, but they have long disappeared in the neighbourhood of Srinagar, and now the common deal from *pinus excelsa*, a wood with short life and little beauty, is almost exclusively used. The deodar, as it aged, took most beautiful mellow tints in chestnut-brown and amber, whereas the deal wood weathers a dull drab. Many of the common houses have pretty lattice-work windows, but most such are old, and there is some danger

of the elegant ceilings and fretwork becoming a lost art. As we see them from the river, many of the wooden structures dignified with the name of houses look frail to the point of danger. Some are quite out of the perpendicular, and threaten to fall with the first gale. And yet these dilapidated houses, three and



The Sher Garhi Palace

four storeys high, survived the great earthquake of 1885, in which many stone buildings fell.

It is only on the banks of the river, and near one or two chief bazaars, that the houses are close together; elsewhere they

spread out in rambling fashion, with little gardens arranged, as Ruskin says, "on the easy principle of horticulture—plant everything, and let what can, grow"; cabbages and capsicum in confused contact with tobacco plant and cockscomb.

The modern buildings of the Sher Garhi are in striking contrast with the rest of the city, and are sufficiently diversified in style: the great Grecian columns of the new palace flank the peculiar Dogra style of the old one, and near by we see modern specimens of Gothic and Italian architecture, while in the midst is a solid, squat, stone temple with golden roof. The palace columns, unfortunately, dwarf all the other architectural features, and the effect of the whole is gaudy and inartistic. Yet, doubtless, the mellowing hand of time will work wonders.

The bridges which span the river are most of them almost new, for recent floods swept the former ones away. But some were reconstructed on the old lines with the materials ready to hand. Their massive piles are of deodar logs laid crosswise; the upper layers project like cantilevers to reduce the span, and on the projecting ends massive wooden beams are laid to complete the arch. Formerly one or two of those bridges were, like old London Bridge, covered with shops, but they were destroyed by fire. But even now in the Mar Canal there are two stone bridges with rows of shops on each side, which look very quaint as one is paddled along the narrow and unpleasantly odoriferous canal. As one looks at the great well-squared stones of which the river embankments are constructed, and notes the carved cornices, capitals, and columns that here and there occur,

one realises that the modern wooden Srinagar has to a great extent replaced a city in which, if the ordinary citizen lived in lathe and plaster or brick, there were abundant stately temples of grey limestone or black marble. But whatever may have been the beauty of its edifices, of this we may be sure, that its

Bridge of Shops over Mar Canal

main attraction would always have depended, as now, rather on the swift full river, the vines trellised from tree to tree, the massive shady plane trees, and the glorious views of distant snowy mountains, than upon the handiwork of man.

CHAPTER IV

THE PLEASURE GARDENS AND SPRINGS

In Japan there is an old-time national custom of the *Nagami* or Beholding, when all go out to view the successive spring blossoms and to make holiday. In the same way the pleasure-loving Kashmiris pour out of the city in thousands on the fine days in March, when the almond gardens which extend round the slopes of the fort hill are in blossom. The trees are planted rather close together, and all bloom simultaneously. The effect from a little distance is rather that of a sun-lit cloud than of anything more earthly and substantial. There is not a leaf on the trees, but the dense masses of white or delicate pinkish flowers give ample shade, in which groups of people gather, drink tea, and sing the songs of spring.

A month later there is the *Nagami* of the lilacs, which abound in the pleasure gardens on the lake. These are specially beautiful at the Nishat Bagh. This is one of the various gardens made by the Mogul emperors of Delhi, who spent their summers in Kashmir. They were great builders as well as rulers, but their gardens may outlive all other signs of the great empire. From the lake shore successive terraces stretch

Outside the Nishat Bagh

up the hillside; giant plane trees shade the walks, which are bordered by lines of cypresses, and all around is soft green turf. A clear stream flows through the centre, forming a beautiful cascade under the uppermost pavilion, then expanding into a many-fountained tank, again rippling over a terrace,

Spring Blossoms in the Nishat Bagh

and so from step to step falling to the lake. Lofty crags rise for thousands of feet precipitously above the gardens, while, in the opposite direction, a wide soft expanse of lake and village-dotted plain invites the eye, beyond which the serrated lines of snowy hills melt away in the distance.

The Shalimar gardens contain some fine summer-houses, with polished pillars of black fossil marble said to have been carved by Delhi workmen. Through the far-stretching branches of the broad-leafed plane the snowy summits of Mount Mahades are seen glittering.

In the Shalimar Gardens

What changes have occurred since the time when Jehangir and Nur Jahan, casting aside the cares of state and forgetting the petty intrigues of court, roamed through these shady walks! They planted, but never lived to see the full perfection of those

stately chenar trees; others have entered into their labours. Fairer than any of the beauties of the Mogul harem are those who now often visit these gardens and picnic in them. Man has done much for these royal "baghs," but Nature more, and it is where man has attempted least that he has succeeded best.

Camping Ground in the Nasim Bagh

The Nasim Bagh, with its park of splendid planes, its broad avenues and stretches of green turf, and gentle grassy slope to the water's edge, bears the palm of beauty. The view of the Dhal Lake from here is thought by many to be

the most beautiful in the world. No railroad or great hotels are seen to scar the face of nature. "The Emperor Jehangir is said to have specially admired it, and to have declared that the beauty of the reflections and the colouring of the water by reason of the flowers and water-lilies exceeded anything he had read of in the descriptions of Paradise! In those days they used to light fires on the mountains and enjoy the splendour of the reflections. He looked on the hills, with their purple rocks and velvet herbage appearing even more sombre and glorious when reflected in the water; on the broad sheets of water, purpled by the lotus in the day and whitened by the water-lily by moonlight; on the darkness of night, heightened by the bonfires of which the blaze was repeated on the glittering surface of the water, and said, 'Truly this is the paradise of which priests have prophesied and poets sung — *Agar Firdus ba-ru-i-zamin ast, hamin ast u hamin ast!*'"

Yet the richest beauty of all is not when "audacious plum succeeds lavish cherry" in spring blossom, nor when the kingly lotus flowers crown the waves, but it is when the chenar "blushes like the parting day ere the summer fades." The blaze of colour in the autumn surpasses description. The chenar trees range from cadmium yellow to madder carmine, tints with which the lemon of the poplars and the silvery green of the willows harmonise. The crisp autumnal grass on the mountains, when touched by frost, becomes orange and brick red, lighting up towards sunset into a ruddy glow which

is heightened by the soft violet and deep purple of the shadows cast by the rugged cliffs.

But here the everlasting hills can teach
The open eye and understanding soul.
Lift up your hearts, their soaring summits cry;
Lift up your hearts, and let your souls reflect
The image ye were made in, as the lake
Receives the image of her brooding hills,
Dark with the sullen storm-cloud, scarred and bare,
Or laughing in the sunlight, and aglow
In ruddy heather blent with vivid green.
Hills, ere ye melt into the dusky sky
After a radiant eventide hath clothed
With rare pink hues your rugged sides whereon
The shadows of the unlit peaks repose,
Tell us that God is strong, though we are weak;
And that He changeth not, although we change,
And stay our souls on His eternity.

. . . . . .

God of the hills, make these the noblest works
In Thy great Art of Nature, unto us
A glorious apocalypse of Thee!

—*Mary Petrie.*

These Moguls had a feeling for nature which led them to seize every vantage point for the construction of gardens. The copious springs which issue from the mountains have from time immemorial been regarded by the natives as special abodes of the deities, and have been places of worship. Throughout Kashmir we usually find that springs flow into artificial tanks round which the sacred Shiva symbol will be found. In

Mohammedan times these were of course removed, and in many cases a Mohammedan shrine succeeded the idol, and a Pir superseded the Brahmin, but the local respect for the spring remained unchanged. Where the spring was of special interest on account of being sulphurous or thermal we may be sure of

A Peep of the Lake from the Nasim Bagh

finding religious emblems, and where specially copious in fine surroundings there a royal garden will have existed. Vernag has already been described, and Achibal is no less beautiful. From the caverns at the foot of a cedar-covered spur gush out

Winter in Srinagar

the most abundant springs, the water of which leaps in foaming cascades over the stone-faced terraces of the royal garden. The water is intensely cold, coming probably by underground channels from some distant snowy source, and as it flows through the dense shade of the chenar groves it cools the whole surrounding air, so that on the hottest day of summer the climate of Achibal is that of Europe.

Rest at Noon

Martund and Anant-Nag also have splendid springs, flowing through fine tanks in which thousands of sacred fish, a sort of carp, live and are fed by the Hindus. A short distance from the tank, the fish are seen swimming in the pellucid shallow streams, and being outside the sacred pale they may be caught.

Bernier records visits to two sources, one at Baramulla, the other at Soondbrar, respectively Mohammedan and Hindu, which in his day were specially famed. That at Baramulla was a sort of "Lourdes," where daily miracles were worked by the moullahs in charge, and to which the lame, blind, and rheumatic gathered from all parts of the valley in search of healing, and not in vain, for faith was potent then as now to work wonders, not merely psychical but physical. He shrewdly detected the cheating of the moullahs, who claimed that a heavy stone was raised by supernatural help when they united in prayer while touching it with but one finger (an ancient version of table-turning). But he joined with the others in shouting *Karamat! Karamat!*—"a miracle"—to avert the wrath of their partisans should he express any doubt.

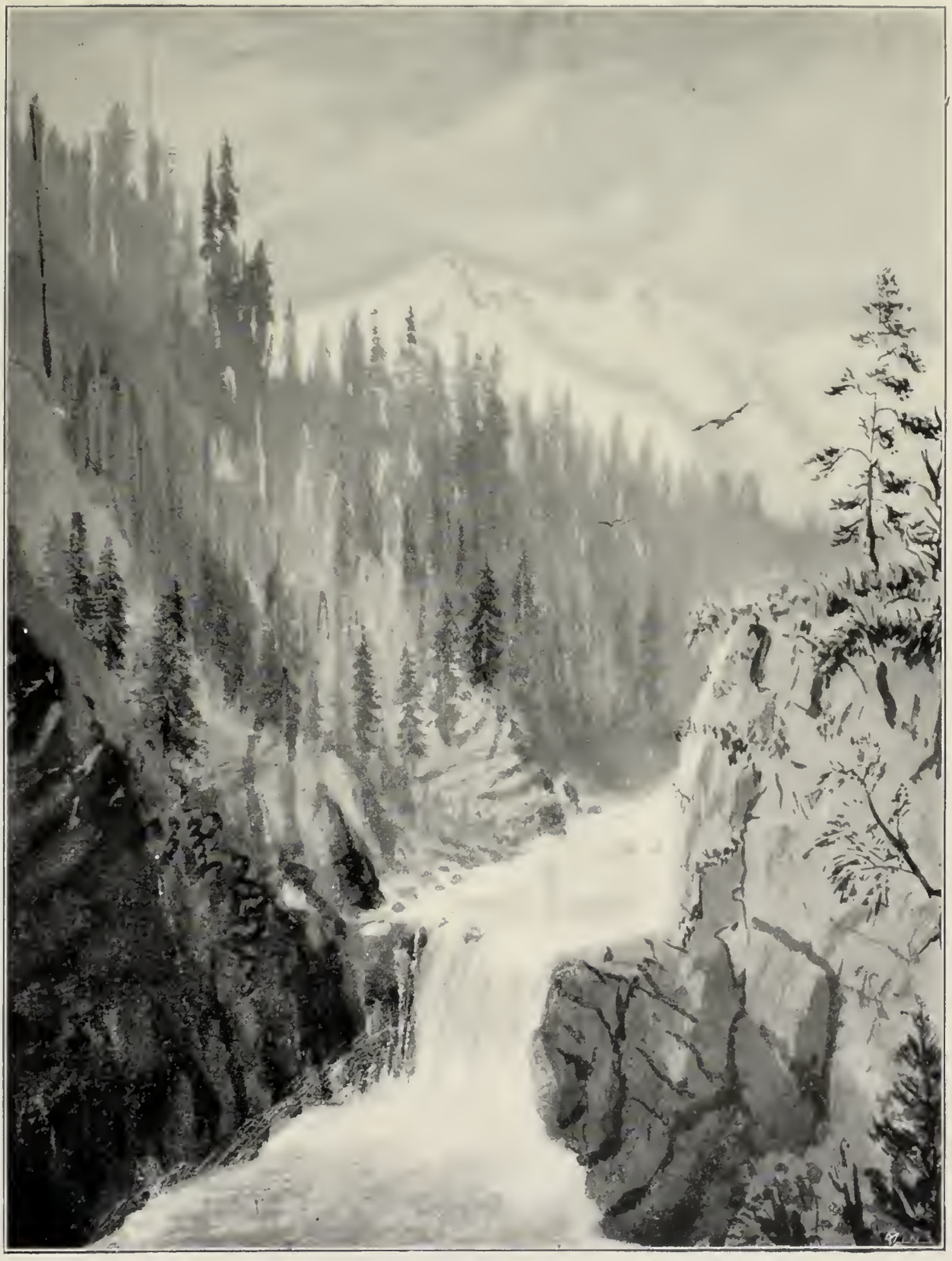
Regarding the intermittent spring of Soondbrar there is no room for incredulity; the author has visited the place to verify Bernier's account of it. At a certain season of the year it ebbs and flows three times daily, and then ceases altogether. It is no wonder that such an hydraulic phenomenon has attracted the Hindus, ever ready to worship the weird, the mysterious, or the powerful in nature, not for what they are in themselves, but as a revelation of the Being of God. During the time of its annual flow, pilgrims visit it from distant parts of the country. Near the mouth of the Sind river is a tank at Tulimula, the water of which is alleged to change its colour on certain festivals by divine agency; and innumerable crowds flock there from the city to gain merit by bathing in

the sacred pool. It is to be hoped that, as aniline dyes become cheaper, the Brahmins who are responsible for this fraud will treat the credulous public to a fresh selection of tints ; and if the water were bright enough to dye garments, the purposes of decency and utility would both benefit, as the present arrangement is somewhat scandalous. The bubbling of gas from some springs is regarded as evidence of "inspiration," and there are various legends about the deities of the Wular Lake, whose special abode is thus indicated, and who claim a toll in human life from any monarch who crosses the lake.

CHAPTER V

THE UPLANDS OF KASHMIR

Many travellers, passing up and down the river and seeing little more of the country than is visible from the banks, imagine that Kashmir is a flat, alluvial plain, bordered on all sides by lofty mountains. But, as a matter of fact, the alluvial plain is barely half the non-mountainous area, much of which is singularly pretty. There are numerous side valleys penetrating far into the mountains, at the mouth of which are wide and fertile deltas. Such land is everywhere terraced for rice cultivation, and among the fields are lines of willow and mulberry trees. The villages are prosperous and populous, the cottages well built, with spacious, well-stocked gardens; clear streams flow in many channels through the villages, and there are pretty commons or village greens, round which grow fine walnut trees and stately chenars. The wide-spreading "Karewahs" which spread up from the plain to the foot of the Pir Panjal are less fertile. The surface is very level, and when the crops are dependent on rainfall, not much is grown in ordinary years. Deep ravines separate these plateaux, in which flow mountain torrents. Further from the valley the Karewahs are usually irrigated, and their seamed irregular



The Haribal Falls

surface is more diversified. There is more rainfall, the grass is greener, flowers more abundant, and dense thickets of hazel and wild indigo cover the slopes, which are gay in summer with wild roses and fruit blossom. The scenery of these rolling upper plateaux resembles many parts of England, and especially the hilly parts of Surrey. There is great diversity in character. In the district of Deosar there are wide-stretching commons more than a thousand feet above the plain; these mark the original level of the Veshau river, which now flows over a stony bed lower down. Where this river emerges from the hills there is a beautiful gorge, with precipitous rocky walls. The river has cut its way across the slaty strata, some ledges of which, being harder, have resisted erosion, and so form terraces over which the river plunges. Where the cliffs are highest and most vertical occur the fine falls of Haribal. These are best seen from the rocks overhanging the north side, from which the sketch here given is taken. The snowy summits of the Budil peaks are seen looking up the ravine, which is clothed with pine forests.

The river, churned into foam as it forces its way through the rock-bound gorge, matches the whiteness of the snows. The north side is quite inaccessible; but on the south-east there is a cattle track from Manzgam, which descends into the ravine and winds round near the falls and so into the beautiful grassy valleys above. In many ways this district resembles that near Ryar. There, too, is a river cutting its way down from the grassy Alps of the Toshmaidan through a lower outer

range, where there are waterfalls and rapids; and there, too, are rolling moorlands, fringed by pine forests, with scanty "gujar" villages. In Eastern Deosar are some secluded basin-like valleys, separated by low intervening ridges. In the centre of these upland valleys there is rice cultivation, but elsewhere there is pasture land, with park-like scenery and villages hidden in walnut groves. Jessamine and sweet-briar scent the air, and the call of the cuckoo reminds one of the homeland. Dense forests cover the mountains which rise to the south and give shelter to bears, which are still numerous in this wild district. At the extreme west of Kashmir is very similar scenery to that just described, in the Lolab valley, and the Tahsil called "Utar" or West. Here the mountains slope gently down, and the forests of deodar, *pinus excelsa*, and abies extend far over the plateaux at the foot. Grassy glades, with innumerable ancient and gnarled walnut trees, stretch for miles from village to village.

Of the Lolab, Dr. Duke writes—"There are few more charming spots. If it lacks the wild grandeur of the Sind valley, or the majestic scenery of Gurais, or the calm expanse of the Dal or Manasbal Lakes, it has a sylvan beauty nowhere excelled." Stags roam over the surrounding hills, and bears are still numerous in the dense forests, in which also troops of monkeys are often seen swinging from bough to bough. These gather the various kinds of wild fruit and nuts, storing them away for the winter, and work terrible havoc in the fields of maize. Of late years the population of these districts has increased by squatters coming over from the Black Mountain or Punch.

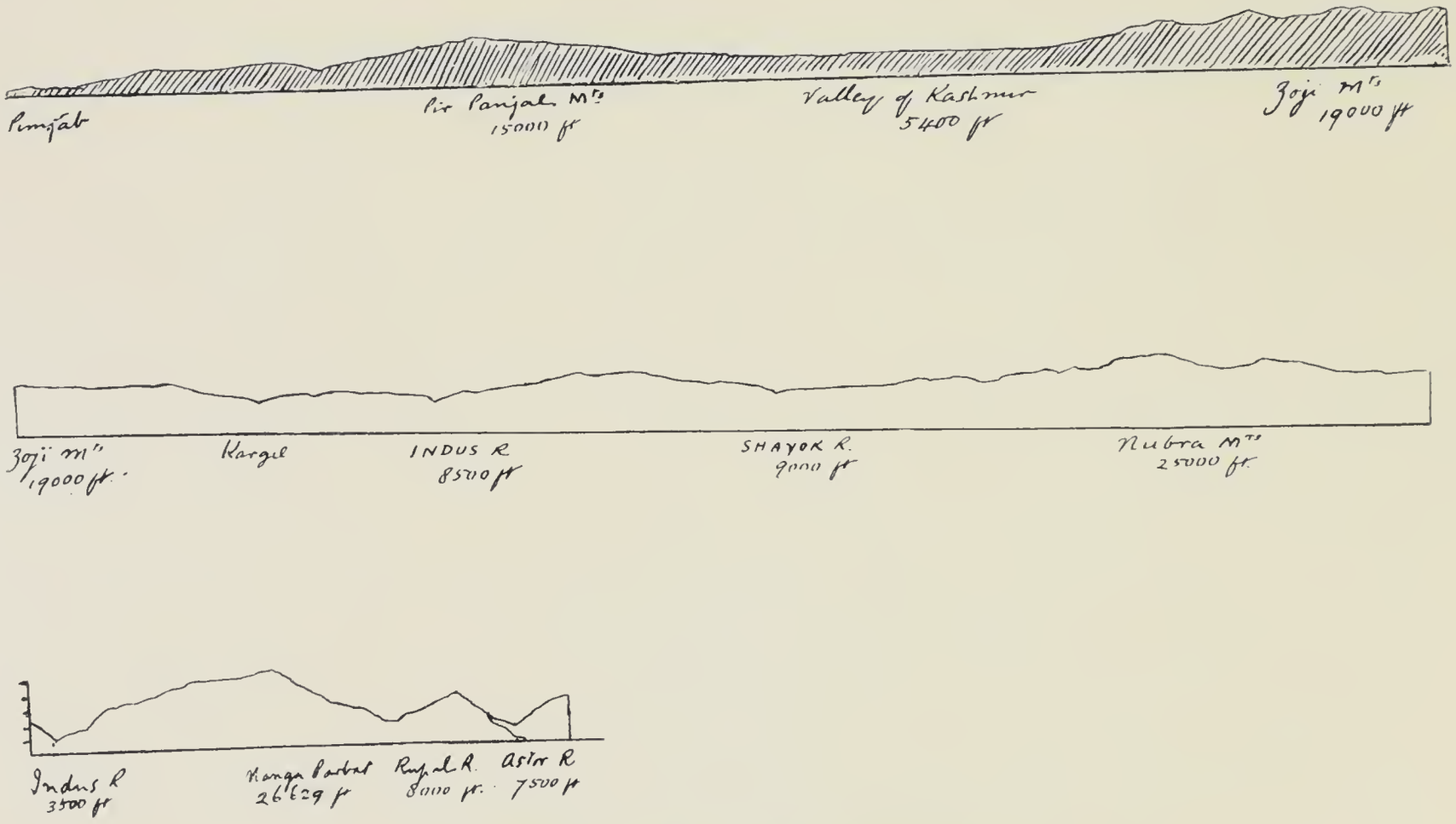
These have cleared spaces in the forests by the primitive method of firing the trees. In many places the spectacle may be seen of hundreds of burnt trunks standing up against the sky, the gujars having been too lazy even to cut down those that the conflagration left standing.

It was in the uplands near Baramulla that the earthquake of 1885 wrought the greatest havoc. Earthquakes are by no means uncommon in Kashmir, as might be expected from its past history. While the formation of the lake which formerly occupied the whole valley was due to upheaval of the Panjal side, the subsequent escape of the waters may well have resulted from some fissure, due to contortion; and the present lakes are due to subsidence of their beds. The villages on the low hills south of Baramulla were levelled to the ground, crushing those who had not time to escape, and burying the cattle. In some places landslips fell and overwhelmed villages. A few days after the catastrophe I went through the district collecting the wounded into temporary hospitals. The loss of life had been terrible—entire villages had been annihilated. The steep sides of the hills were scarred with landslips; forests were seen with the trees prostrated; the hilltops were crumpled, and in places looked as if a thirty-foot ploughshare had been passed along them, so regular were the deep furrows.

The lakelet of Nil Nag, which is a day's journey south of Srinagar, was probably caused by an earthquake, which displaced a portion of the Karewah, which here rests against the mountains. An area of nearly a mile square subsided and

blocked the small side valley, forming a lake. The tops of the submerged trees still project from the surface; and, half a mile to the north, a line of cliffs shows the former level of the plateau. Nature has dealt kindly with the scar, covering it with trees and flowers, and there is a pretty village on the subsided ground, while by the lake side are one or two huts built by Europeans for summer quarters.

The valley of Kashmir is sub-tropical, and the heat is by no means inconsiderable for three months of the summer. The numerous lakes and marshes, with hundreds of square miles of inundated paddy fields, give off an immense amount of moisture for which there is no outlet. Like steam in a cup, it re-condenses on the sides, and the air is usually nearly saturated with moisture until the cold nights of autumn set in. For this reason the atmosphere is heavy and relaxing, and most of the Europeans seek a more bracing climate on the mountains. Most of the hill-stations of North India are built along mere ridges, where the steep slopes have to be terraced, and where it is difficult to find a level space large enough for a tennis court. In Kashmir there is no such difficulty. The conformation of the mountains is such that fifty Simlas might be built on comparatively level ground on the Kashmir side of the Pir Panjal range. I give a typical section through the range, showing the synclinal axis to which the lovely upper marges are in part due. They show how very easy is the gradient on the Kashmir slope. Some of this is due to the strike of the rocks, and some to the very gradual nature of the erosion, whether by ice or by



Sections through N.W. Himalayas

water; and much of what was at one period excavated has since been again filled up. Gulmarg valley was at one time deeper than now. Then again it began to be filled with *débris*, brought down by ice and streams. Later on the egress of the water was for a time blocked, probably by a glacial moraine at Dhobie ghat, so a lake was formed over the level where is now a polo ground and a racecourse. Gulmarg, the "Meadow of Roses," is, indeed, a flower garden in early summer. Not till April does the snow clear off, for it is 8500 feet above the sea, and it is partly under the lofty Apharwat, in the hollows of which the névé remains till autumn. The open grassy basin to which the name properly belongs is about two miles long and half a mile broad, and is somewhat crescentic. On either side are rolling hillocks, with scanty clumps of pine, which merge on the outer or eastern side into the low, fir-clad ridge overlooking the plain. It is on this ridge that most of the huts are built. On the inner side there is dense forest gradually sloping up towards the mountain, and on the fringes of the forest are many more houses and the little church.

To the north-west there is a succession of similar meadows extending for ten or fifteen miles round the shoulders of Apharwat. There are many other marges stretching away to the south-east, some lower and some higher. On one occasion I marched for four days towards the south-east at an average elevation of 10,000 feet, most of the path lying along grassy meadows, with narrow intervening strips of forest. There are no villages, but occasionally a shepherd's encampment would

be passed; but for ten months of the year these beautiful glades are left in utter solitude, save for the monkeys, bears, and eagles. The sheep only ascend about midsummer, and leave again by the end of August. The flowers which carpet the ground, peeping out as fast as the snow retires, are mostly of familiar European kinds. First come broad belts of mauve and pink primulas, then the blue, yellow, and white anemones, with several showy varieties of ranunculi. These give at all times a jewelled effect to the sward of the higher alps. Edelweiss is very common, and hosts of other compositæ cover the hillsides, especially later in the summer. In the woods the splendid columbines, some pale mauve, and some white, catch the eye, and on the rocks are the bright pink saxifrages. The list might be extended to pages were one only to mention the prizes of a single walk, with the aconites and gentians, borages and ericas.

In the forest above Gulmarg the *pinus excelsa*, silver fir, and spruce are the commonest trees. Some of them grow to a great height, especially the fir, which often exceeds 120 feet in height, and fifteen feet in girth. Of the deciduous trees, whose bright green foliage forms such an agreeable contrast to the dark pines, the maple, horse chestnut, and ash are most abundant.

These dark arboreous foregrounds give depth and distance to the views from the ridges. A passage from Lawrence's "Valley of Kashmir" is tender with true feeling for the beauty of the colouring of the distant mountains. "In early morning they are often a delicate semi-transparent violet, relieved against

a saffron sky, and with light vapours clinging round their crests. Then the rising sun deepens shadows, and produces sharp outlines, and strong passages of purple and blue in the deep ravines. Later on it is nearly all blue and lavender, with white snow peaks and ridges under a vertical sun, and, as the afternoon wears on, these become richer violet and pale bronze, gradually changing to rose and pink with yellow or orange snow, till the last rays of the sun have gone, leaving the mountains dyed a ruddy crimson, with the snows showing a pale creamy green by contrast. Looking downward from the mountains, the valley in the sunshine has the hues of the opal: the pale reds of the Karewah, the vivid light greens of the young rice, and the darker shades of the groves of trees, relieved by sunlit sheets, gleams of water, and soft blue haze, give a combination of tints reminding one irresistibly of the changing hues of that gem."

The panorama of the whole range is better seen from some high projecting portion of the Pir Panjal than from any other part of Kashmir, and as so seen it is unrivalled by any mountain panorama in the world. To the south we overlook the lower grassy ranges of Punch, beyond which the haze hides the plains of the Punjab. The blue depths seem impenetrable in those deep valleys. To the north-west rise the fine masses of the Kaj Nag, with their dark, forested slopes closing in the end of the Kashmir valley. Over the lower ranges which bound the Lolab we see the craggy, serrated outline of the mountains of Khagan, rising to over 16,000 feet; these rise higher towards

Early Morning in Gulmarg

the north, and there are some fine "aiguilles" and "dents," between which lie the passes to Chilas; then the splendid mass of Nanga Parbat is upreared head and shoulders above the surrounding groups of mountains, though these attain from 18,000 to 20,000 feet. Seen from above Gulmarg, Nanga Parbat is somewhat like Mont Blanc from the Juras, though much more impressive. In outline it is much the shape of a cocked hat. Far away in the distance, even beyond Nanga Parbat and to the right of it, on very clear days, a faint cloud-like line on the horizon indicates the mighty Mustagh, many of whose peaks exceed 25,000 feet, and one, the renowned K. 2, is over 28,000 feet in height.

Even when all these distances are hidden by clouds, the nearer ranges of Thibet are striking, with their rocky peaks projecting above the more verdant and rounded hills which overhang the Wular Lake, whose broad band of turquoise and silver here fringes the Kashmir plain. Mount Haramouk is the most prominent of all, rising sheer from the valley, with its four-pointed summit covered with everlasting snow, from which glaciers stream down into the depths, and its great slate precipices guarding the access to its untrodden heights. Further to the right we see Kotwal, and the snowy aiguilles above Sonamarg, beyond which is the Ladak watershed. Then comes Kolahoi, a sharp snow cone with black precipices at the head of the Sind valley, rising to nearly 18,000 feet. Nearer the valley are the bold outlines of the limestone hills of Vihi, prominent among which is the great pyramid of Wastarwan,

round whose foot the curves of the river gleam like the coils of a serpent. The city of Srinagar is marked by the blue smoke-haze, in which the sparkle of the silver-spired temples catches the eye. Looking east the details of the valley fade away in the distance, but still the summits which rise beyond are clear against the sky. There are the twin peaks of Nun Kun (24,000 feet), and still further to the right the great snowy pyramids of the Brahma peaks in Kishtiwar.

As we look round the circle not less than 250 miles of snowy mountains are visible, and on all sides except towards the south, there are splendidly proportioned peaks far exceeding the loftiest summits of the Alps or Caucasus. Over the whole landscape the finest atmospheric effects may be seen. In early summer and autumn it is by no means unusual to have cloudless days, but usually, soon after sunrise, light cirrhus clouds begin to streak the sky, and the higher mountains gather their cloud courtiers around them. Where the snow peaks are loftiest the soft cumuli are often piled up like fairy columns, and it is then that the most exquisite effects of light and shade are seen. These cloud masses often attain a height of 40,000 feet, and imitate in some degree the shapes of the mountains they conceal. Towards sunset, when the mountains are a rich soft violet, and cloud columns are flame coloured, radiating light into valleys the sun has long deserted, the effect is inconceivably lovely.

In a single day's march from Gulmarg one can reach remote fastnesses and climb some possibly untrodden peak. Of course, there have been passes towards Punch used from time im-

Shisha Nag

memorial, such as the Ferozepor or the Nilkant Pass. But few of the peaks of the Pir Panjal have been climbed. Many are rounded and present no difficulty even for ladies, such as Apharwat above Gulmarg, and there are sometimes picnic parties to the ice lakes near the summit. Till after midsummer there are ice-floes on these lakelets. On one occasion I accompanied some ladies who venturously navigated themselves on an ice-floe across the water, steering it with alpenstocks.

Further south-east there are many unclimbed points. Some of these are huge columns of gneiss jutting up 2000 feet from the backbone of the range. They appear to present absolute precipices on all sides, but, on closer inspection, a climber will note that there are "arrêtes" (usually to the N.-E.) by which a party of skilled climbers with a rope might reach the top.

In the hollows to the north there are some permanent glaciers, the remains of those which, at one time, extended down to the *margs*, and which, at a much later period, by a deposit of terminal moraines formed the lakelets which are so abundant along the whole range at a height of about 12,000 feet. Some of these are marked in the survey map, but many others in the remoter ravines have escaped notice. The largest and best known of these is Konsa Nag, which used to be a place of pilgrimage. In the month of May—when I visited it—the ice begins to break up. On all sides are lofty snow peaks rising above 15,000 feet, and at the further end is an extensive snowfield of great thickness. The barrier is not solid rock as stated in some books, but is a huge moraine, 500 feet in height,

and the water of the lake filters through it and escapes half-way down. The highest marked summit of the whole range is Tutakutti, 15,524 feet, which was climbed some years ago by Dr. Stein from the S.-E. side. I explored the north side in 1892. The valley below the glaciers is choked by enormous boulders arranged in places like a pavement by the névé sliding over them. Hundreds of these rocks are ten or fifteen feet in diameter, and their upper surfaces being smoothed off by ice action, it took over an hour to progress half a mile across the valley. In the upper hollows are miles of snowfield. To avoid being benighted we made a pass over the cliffs to the east. Our two Kashmiri porters, who can climb like goats, protested that we should be killed in this "peristan" (enchanted ground), for the sight of the rope seemed to unnerve them. However, the threat of leaving them alone was effectual, and they proved themselves steady and reliable when using the rope on the very precipitous and rather slippery descent beyond the pass to our camp. At night it snowed; so we put the coolies into our tent, and ourselves took refuge in a tiny goat-hut, three feet high, and open at the sides. The following year, in a four days' trip from Nil Nag, we ascended what appears to be the highest point of the whole range, and which we named Sunset Peak. The upper two thousand feet of the climb are entirely over snow. The peak itself is of metamorphic slate, and there is a tremendous precipice on the south side. It is not a climb in the alpine sense of the word, for the ascent is most gradual, but the altitude is such as to bring

on symptoms of mountain sickness in many of those who ascend it. The summit of Tutakutti appears to be partly gneiss; but most of the splintered teeth of the Panjal, or, as the Kashmiris call it, "pantsàl," are of slaty shales, while the knobby, rounded masses detached from the mountain backbone are gneiss. Viewed from the upper part of the valley the most prominent points are three great dental peaks marked in the map as Brahma Sakul, and irreverently dubbed by the surveyors the "Three B's," or "bread, bone, and beef." The cliffs of the centre one seem actually to be beyond the perpendicular; but from the Konsa Nag side, on the south, they could be ascended, though as yet this has never been attempted. A few wild sheep and markhor still linger in the fastnesses of this range, where few sportsmen ever go.

CHAPTER VI

THE SIDE VALLEYS

Undoubtedly the most striking mountain scenery in Kashmir is that of the numerous side valleys, of which the best known are the Lidar and the Sind. These have certain features in

A Hindu Devotee

common. They take their origin above in a wild, mountainous region, to which the lofty dolomite rocks give a fantastic appearance. The scenery of the dolomites is always striking,

even when of no great height; but when, as in Kashmir, they rise to a height of 18,000 or 19,000 feet, when glaciers choke the ravines, and glacial lakes of considerable size fill the hollows, the effect is awe-striking. It is little wonder that the Hindu, with his keen appreciation of the power of

The Lidar at Ganeshbal

nature, should select such a spot for the special home of the gods—the sacred cave of Shiva.

The great pilgrimage takes place in August, and thousands of Jogis and Sadus congregate from all parts of India for this

little mountain trip, which is at the expense of the Maharajah. Along with this ash-smeared crew of devotees are many Kashmiri Hindus, both men and women. There are some upon whom the pilgrimage is obligatory, others go voluntarily to gain its merit and see the "darshan."

The Lidar below Aru

It is about two marches up the Lidar valley that the finer scenery is reached, where the mountains close in on either side, and the river is a roaring torrent, dashing furiously by the base of lofty cliffs or through the dense forests of spruce and pine, horse chestnut and maple, which clothe the slopes.

Lidar Valley above Tanin

Pailgam is a favourite summer camp for Europeans, as it is high enough to have a temperate climate, and is not too confined. The most striking point in the view as we ascend the valley is the snowy peak of Kolahoi, which lies somewhat back over lower hills. The pilgrim road lies up to the right, and at Tanin, leaving the narrow gorge, it ascends steeply up a side spur, and then passes along grassy slopes and flowery meadows to Shisha Nág, a lake of some size and of peculiar neutral green tint. The peaks are of strange outline, with protruding rock ribs contorted and pushed up almost vertically, and up a side valley half-filled by glacier are the dazzling snowy Koh-i-núr mountains. The pilgrims bathe in the icy water of the lake, and next day reach the last stage of their journey in a desolate, treeless valley within a few miles of the sacred cave.

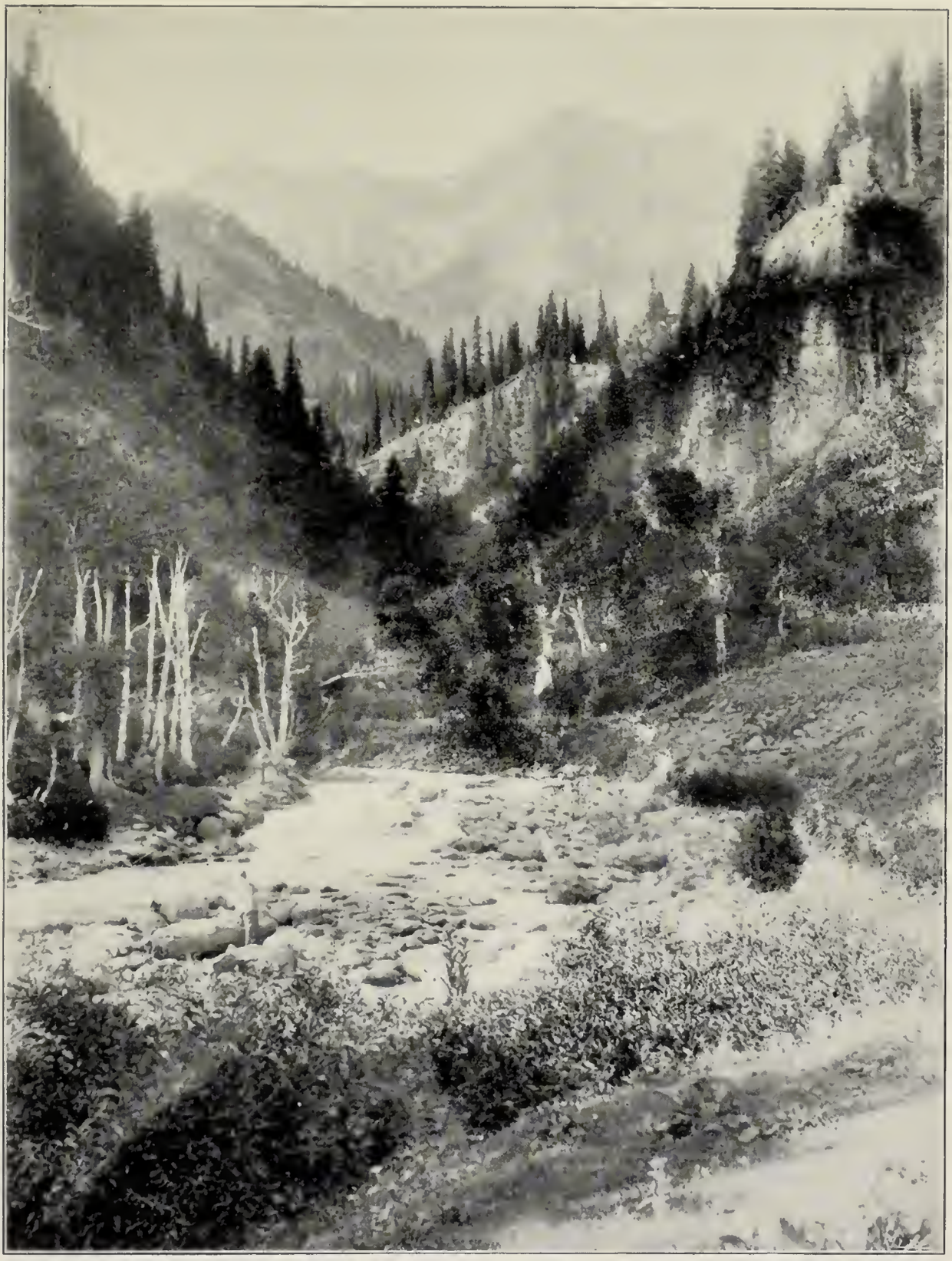
I was not there at the time of pilgrimage, and so quote some extracts from the letters of the saintly Bishop Trench :— "It was a curious sight from the knoll on which we were, to see the successive lines across the broad plain (of Panjitarni), like emmets from an anthill. At evening the smoke of the cooking fires rose like a cloud from the slender tents, which were pitched on a gentle slope beneath tha Horeb-like hill. The tents were densely filled with human beings crowded together to secure some warmth. Those from the plains of India evidently felt the cold keenly. Some, very few, succumbed to cold, weariness, and hunger, and left their bones on the way. . . . The next day was the great day of the darshan.

In order to secure this there must be a rigid following of rules, ascending by one rather precipitous route and descending by another. The inversion of this would forfeit all the pūnya or merit. . . . Much of the impressiveness and solemnity of Amarnath seems connected with its majestic approach. There was much in the greyish-red limestone mountain and its towering, minster-like peaks, peculiarly combining gracefulness and massiveness, to remind one of pictures of Horeb, and the plain at its base where

> Israel lay on earth below
> Outstretched, with fear and wonder.

Anything more ridiculous or puerile than the darshan, or sight of the deity, with the hope of which the poor pilgrim is beguiled as the goal of his expectation, it is scarcely possible to conceive."

The approach to the sacred cave is partly over snow, and the upper part of the valley is filled with glaciers. I doubt if the cave is over 13,000 feet above the sea, though usually stated as from 14,000 to 16,000 feet. The great Himalayan god is represented by a block of ice projecting from the back of the cave, in front of which is a mutilated black limestone image of the bull of Shiva. The ice is a frozen spring, issuing from the crevices so common in dolomite rock. Some pigeons inhabit the recesses of the cave, and it is the sight of these fluttering about in alarm at the shouts of the pilgrims that awakens still greater enthusiasm, for is not this the response of the gods? So they shout *Amarnath Ji Ka Jai!* with



The Tanin Ravine

redoubled vigour, and throw themselves naked upon the block of ice. There can be but little true darshan to such as are satisfied with these paltry visible emblems, but yet blinder must be those who can gaze at the stupendous handiworks of God and feel no inward response to the manifestations of His power. The

The Cave of Amarnath

difficulties of the road are by no means inconsiderable, and, as European travellers have not the stimulus of acquiring pūnya, many have turned back without accomplishing their journey; but among the successful ones have been some few ladies. One, a

lady of title, was carried in a basket on a coolie's back. In our party there were two ladies, one of whom, with a contempt of danger worthy of a war-medal, ascended the worst part in her dandy. It was difficult for the dandy-bearers, who were assisted by men higher up the hill with ropes attached to the dandy, while others below guided them in placing their feet. On the same day, when attempting to ford the snow-swollen torrent, the other lady, with her pony, was swept down the current and ran considerable risk of being drowned. These are the head waters of the Sind, which below Amarnath flows through an impassable gorge, where the river sweeps the face of vertical cliffs. Far into the summer the gorge is blocked with avalanches, under which the water tunnels its way; and it is usually practicable till the middle of May to descend from Amarnath to Baltal, and there join the main road to Ladak. At such a time the hard-beaten snow forms a continuous road, with the river far beneath; but a week or two later the melting snows swell the side streams, which cut deep channels in the névé, which is at the same time hollowed out underneath by the Sind, and soon fissures appear at each side and the arch of the snow tunnel collapses. The huge wrecks of snow bridges are among the most picturesque phenomena of the high Himalayan valleys. The abutments rest against the cliffs, throwing arches—sometimes massive, often slender and gracefully curved—across the rivers. Where these form a tunnel there may be seen most striking contrasts of light and shade. The sparkling, foaming river of pale green reflects light on the under surface of the hollowed snow

Sonamarg

arch, and then it disappears in the indigo blackness of the tunnel, framed in by the dazzling white of the snow slopes. Such bridges are numerous in the Sind valley early in summer, and, if broken, offer no slight obstacle to travellers on the Kashmir-Ladak road, especially in the gorge below Sonamarg. This is probably the finest specimen of ravine scenery in the Himalayas, perhaps in the world. On either side are jagged precipices rising to the snow line, so steep that

> Nought but knarlèd roots of ancient pines
> Branchless and blasted, clenched with grasping roots
> The unwilling soil.
>
> On every side now rose
> Rocks, which, in unimaginable forms,
> Lifted their black and barren pinnacles
> In the light of evening, and its precipice,
> Obscuring the ravine, disclosed above
> 'Mid toppling stones, black gulphs, and yawning caves
> Whose windings gave ten thousand various tongues
> To the loud stream. Lo! where the pass expands
> Its stony jaws, the abrupt mountain breaks
> And seems, with its accumulated crags,
> To overhang the world. —*Shelley.*

The broad Sind, "foaming and hurrying o'er its rugged paths," falls headlong through this gorge, descending fifteen hundred feet in four or five miles. Its course is almost blocked in places by the piled-up avalanche snow, by huge rocks fallen from the cliffs, and by the tangled trunks of the lofty pines torn from their roots by the rushing snow masses.

The change from this storm-swept, chaotic gorge to the upper *margs*, with their soft sward jewelled with alpine flowers of every rainbow tint, is immediate. Sonamarg, with its rounded hillocks and grassy meadows surrounded by forest-clad slopes, above which rise glacial peaks, is one of the most beautiful of camps. On the south is the valley of glaciers, which the Kashmiris call Harpat Nar, or the bear ravine, a wild and picturesque ravine by which it is easy to ascend the lower glaciers, and from these to get up to the ridge; but the peaks, which tower up to a height of over 16,000 feet, have never been climbed.

On the Ladak road one meets many strange nationalities, for this is the chief line of communication with Central Asia. Caravans of merchants from Yarkand come this way in the autumn—the only time when the route is open for horses—bringing hemp, felts, and furs. Some little merchandise also comes from Thibet, brought by Ladakis, who often use yaks or the hybrid "zho" to carry their goods over the snow-bound Zoji-La. To them the change from the barren stony uplands of Ladak to the green valleys of Kashmir is marvellous, and especially as they descend into the walnut groves and wooded lanes which are such a special feature of beauty in the lower part of the Sind valley. The village farmsteads are hidden in the abundant orchards, and, as the valley widens, rich crops of maize and buckwheat, with the bright crimson and orange bands of amaranth, enliven the scene, contrasting with the emerald and purple of the rounded hills. In the shady

groves, the woodpecker is heard foraging among the branches, and golden orioles and paradise fly-catchers flash in the sunlight as they fly from tree to tree. Cuckoos are heard upon the hillside, with their familiar double note, sometimes varied by a triple call, or a third chromatic note interposed. Down by

A Ladaki Caravan at Sonamarg

the river pretty yellow-headed wagtails are seen fluttering among the rocks, and the deep musical warble of the blackbird is heard, as, seated upon an overhanging bough, it tries to out-sing the many-tongued murmur of the water. Higher up

the forests the Himalayan pheasant ("monal") is frequently seen. It is a splendid bird, with handsome peacock-tinted plumage. When disturbed it rockets down over the tree tops, and a quick eye and practised gun are needed to flush it. Above the forests, and usually towards the snow line, coveys of "rám chikor," the Himalayan snow-cocks, rejoice in their

A Mountain Village

isolation, but their loud whistling call often draws the attention of sportsmen. It resembles somewhat the cry of the marmot, who also inhabits these higher regions, and who, seated in most human fashion at the mouth of his burrow, shrieks a warning to all whom it may concern, that intruders are approaching. Conscious that a dive down his burrow secures his safety, he

indulges his curiosity to the full, and will often not budge till the strange visitor gets within a short distance, but, sitting motionless, with fore-paws crossed over his chest, and head slightly averted, he watches every step of the traveller through the corner of his eye. When alarmed, he disappears in a twinkling, but his nose soon re-appears at the entrance of the burrow.

CHAPTER VII

THE SHAPING OF KASHMIR

The Himalayas, although the loftiest mountains on the globe, and of such great extent, and linked on with other great ranges, such as the Hindu Kush and Suleiman mountains, are nevertheless among the youngest. Long after the mountains of the Deccan were fully shaped, there was a vast extent of ocean in Central Asia, sweeping right across Thibet and Chinese Turkestan, and southwards across the Punjab. What its western boundary may have been we cannot yet say, but it may at one time have been united with the sea which then covered the Alps. From a geological point of view both the Himalayas and Alps are recent, and both are due, not to volcanic action or upheaval, but to the cooling and consequent secular contraction of the earth's surface. Thus, for instance, in the Alps there has been a shortening of the surface from 200 miles, the approximate length of the crumpled strata between Basle and Milan, to 130 miles, the distance as given in maps. In Asia there was the thrust of the great regions of Siberia against the already upheaved mass of the Peninsula of India, which compressed and distorted the crust into the great ranges which are now the backbone of the Old World. What the extent of the shortening was we

Nanga Parbat from the Rupal Bridge

cannot say, but obviously far less than the seventy miles of contraction estimated for the Alps would suffice to push up the loftiest mountains on the globe. And when seen in section in true scale as to length and height, it is wonderful how insignificant the greatest mountains appear. The angle at which mountains rise is by no means so great as it appears to the eye. Nanga Parbat, 26,900 feet, is one of the finest mountains in the world, rising steeply between the Astor and the Indus rivers, and when seen from the Rupal Mullah—within a mile or two of its huge precipices and snow cliffs—nothing can appear more impressive; yet the angle of its summit from the horizon is but 17 degrees. If the angle were taken from the outer edge of the Himalayas, 100 miles away, it would be but a fraction of a degree; and if the whole range were seen from our satellite, the moon, it would appear but a wrinkle on the surface of the earth. It is man's slowness of movement and inability to scale the heights that make these mountains seem so vast. The best climber crawls slowly up 3000 feet of mountain in the time that an eagle would take to swoop across the range from Kashmir to the Punjab. Relative to man the forces at work in raising these mountains were stupendous, but relative to the earth's mass they were insignificant.

Land preceded the ocean in some parts of the Himalayan area, and "probably consisted of great masses of crystalline rocks, deep-eroded by atmospheric denudation, and gradually submerged beneath the Palæozoic waters in which the slates were deposited." Portions of the older rocks remained as islands for a time, but

these also subsided later on. Meanwhile an enormous thickness of shales and slates, corresponding to the Silurian series of Europe, was deposited; not, however, without some disturbance, for submarine volcanoes burst into action in parts of what is now Kashmir. These eruptions took place at different places and at distinct intervals, and immense quantities of lava and ashes were emitted. The trap of the Takht-i-Suleiman at Srinagar is due to this; and at Manasbal the eruption seems to have continued into the Carboniferous period, and to have rendered the rocks quite unrecognisable. Some of the conglomerates of the Palæozoic time lead to the inference that icebergs floated in the ocean, transporting boulders to distant places.

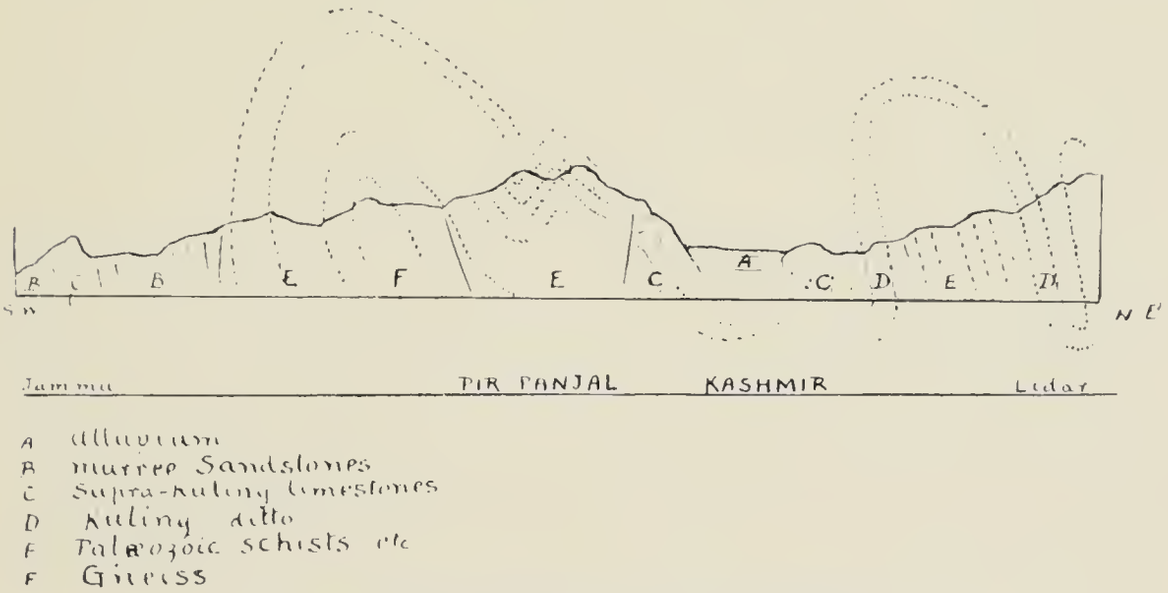
Before the carboniferous period it would appear that there was a general and even raising of the slate strata to the east of what is now Kashmir, and that thousands of feet of such deposits were denuded off the raised surface. This was followed by depression below the sea-level, and the deposit of regular series of sedimentary rocks, which the geologist is able to bring into definite relation with corresponding European strata. The correspondence is not exact with regard to details, but the sequence, as judged by the reliable evidence of fossil forms, is the same. There are many European strata—such as Devonian, Lower Trias, and Permian—unrepresented in the Kashmir Himalayas; but the Carboniferous—Upper Trias, Lias, Jurassic, and Cretaceous—beds are well represented over a large area.

Just as the marine fossils of one period indicate an extension of the central ocean to Europe, so do the triassic fauna and flora indicate a land connection with the Alps. The connection in either case cannot be completely traced, but the cretaceous beds are well developed on into Baluchistan and occupy a large area in Persia, which is, in all probability, linked with the similar rocks of Southern Europe. And so we may picture the silent ages rolling by, while yet a wide extent of sea spread over the centre of the continent; but age by age it diminished. Estuaries or lagoons continued for a time in areas from which the sea had shrunk. Land began to rise. There was the central ridge of Ladak, and then the Pir Panjal range, with the *massif* of Nanga Parbat and the Gilgit-Hunza mountains. At this time there was still an arm of the sea in Upper Ladak connected, not south with a Punjab, but east with a Thibetan ocean.

In the period that followed, the Tertiary period, during which immense deposits occurred, we have evidence that, generally speaking, the marine were succeeded by fresh-water deposits, which latter are of enormous thickness. In Eocene times the Deccan was part of a great tract of land, perhaps of a continent still united to Africa. A sea to the north-west covered a great part of Persia and Baluchistan, as well as Sind and the Punjab. The Himalayas were represented by land raised to no great height, and with its rocks but little disturbed. The conditions of the climate seem to have been semi-tropical, as was also that of Europe in Miocene times; and as the regions to the north

became colder, the fauna migrated towards the tropics. The Siwalik beds of the Pliocene time are rich in fossils of mammals of which more than half are extinct. Elephants, rhinoceroses, tigers, and bison roamed across the plains; and on the hills there were goats, sheep, and deer. It was during the Miocene period in Europe that the Alps were chiefly elevated. The main upheaval of the Himalayas came later, and was distributed over Pliocene and Post-tertiary times. The enormous thickness of sandstones and conglomerates in the outer hills of India correspond to the "molasse" of Switzerland. The Rigi is formed of a conglomerate known as the "nagelflue"; a similar strata abounds in the outer hills of the lower Himalaya, and especially in the neighbourhood of the great rivers. It shows what extensive denudation of the uplands was then going on. As the land rose, the great rivers deepened their beds, and when the chief disturbances took place, these lines of erosion became also lines of flexure and fracture. It is probable that the courses of the rivers have been approximately the same as they now are since Tertiary times, except the Upper Indus which may have flowed east to join the Brahmaputra before the Thibetan plateau was raised to its present level, and the Jhelam, which appears to have debouched directly into an estuary of the sea which then extended up towards Punch. The rivers of that time must have been laden with immense quantities of detritus. Even in the present day, in the regions towards Astor and Gilgit occasional mud-slips occur, liquid mud flowing down the hillside and overwhelming, like lava, the cultivated land at the foot. In the

period when the mountains were being upraised, the rocks broken and cracked, the strata folded double, and sometimes completely inverted, the denudation must have been tremendous, and the rivers almost choked with deposit. After the earthquake of 1885, rivers, which for ages have been excavating the hills of Western Kashmir, left extensive banks of detritus on either side. So must it have been in late tertiary times.



Diagramatic Section after Lydekker

The present conformation of Kashmir is mainly due to three things—(1) the rock-folds; (2) the excavation of the upper slopes by rivers; (3) the filling up of the rocky basins with *débris*. When we look at a section through the Kashmir valley such as that on page 50, we see what enormous quantities of rock have been removed from the surface. If we reconstruct the curves of the strata in such a section, another 15,000 feet is added to the height of the mountains. We may be sure

that not less than 10,000 feet vertical of rocks has been removed from the Pir Panjal range, and probably still more from the mountains between Kashmir and Ladak. It does not follow that these north-west Himalayas were ever over 30,000 feet above the sea, for it is probable that the upheaval has been spread over a period of great duration, and that the denudation of the summits to some extent kept pace with the elevation. The highest points of the ranges were further from the valley than they now are. The Pir Panjal range has been more cut away on the southern side than on the northern, for the slopes are steeper towards the south, and more exposed to those weather conditions which wear away the surface. Accordingly we find that the central gneiss, which is the core of the range, occurs more to the south of the present watershed; that the precipitous cliffs towards the Punch side show successive faces of gneiss, slates, and limestones, and that the hardest portions of the older rocks stand out like buttresses on the south side of the range (see page 57). To the north of the range are gentle slopes with steps on their sides, which are the famous "margs" or alpine meadows of Kashmir. At the foot of the mountains, long plateaux stretch out at a very gentle angle towards the river. These occupy more than half the total width of the vale of Kashmir. Below them is the alluvial plain already described.

The valley of Kashmir is, in the main, a great rocky depression, a synclinal axis, of some twenty miles in breadth, and nearly 100 miles in length. This great basin is now filled up with alluvial deposit, and the bottom of the valley must

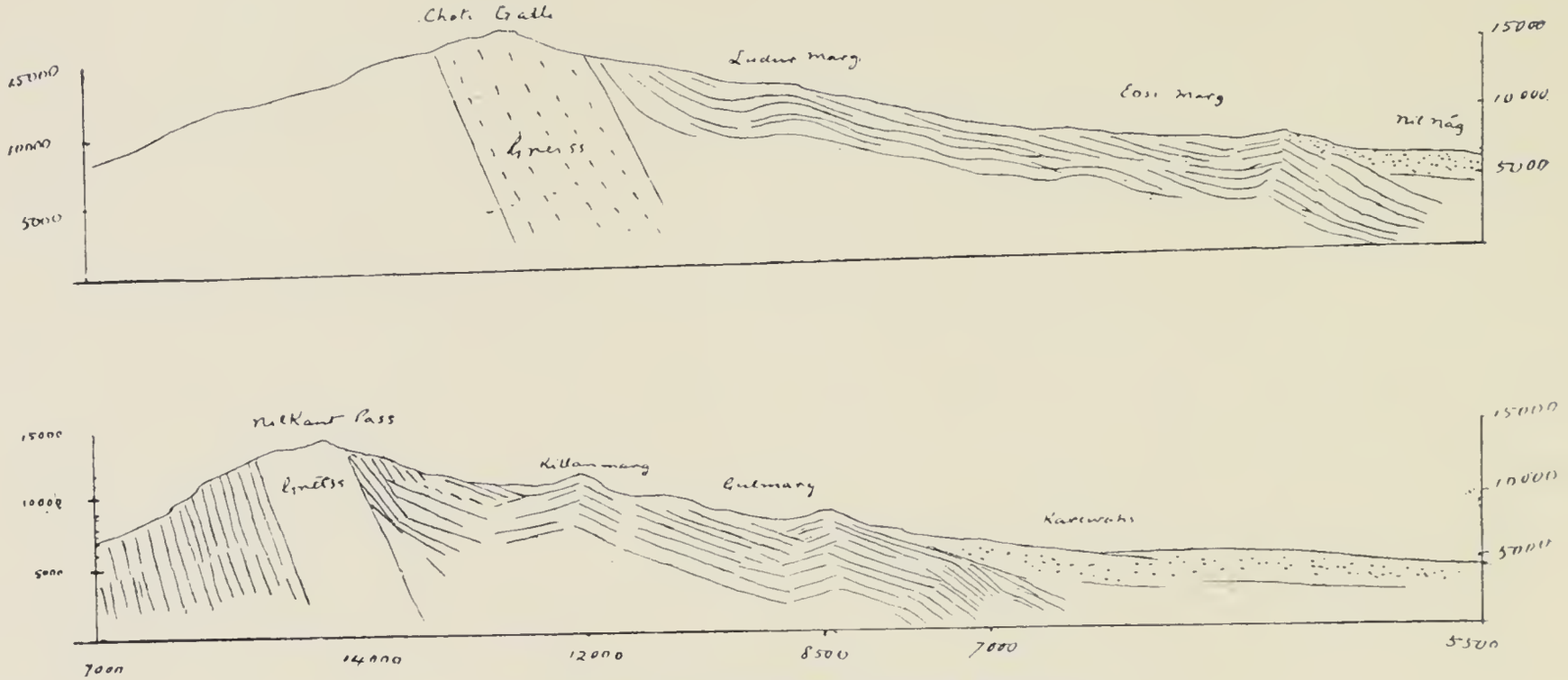
once have been on a level with the top of the "Karewah," which now remain as plateaux. Some of the layers in these Karewahs afford indubitable evidence of lacustrine origin. For instance, there is a bed of lignite containing water-nuts such as now grow in the Kashmir lakes. This occurs 1800 feet above the present level of the Wular Lake. The Karewahs are distinctly stratified, and now slope towards the north-east, at an average angle of ten degrees or less. If, as is probable, the strata were originally nearly level, the present slope would be due to the subsequent elevation of the Pir Panjal range. Such elevation would account for some of the geological problems of Kashmir. When the valley was first excavated by the Jhelam, in Tertiary times (to what depth we do not know), the river cut its way out between the Pir Panjal and Kaj Nag mountains, and joined the Punjab sea below Punch. As the mountains were further upheaved, the river was diverted at Uri towards the north-west, and then again was turned by the sharp bend of the strata at Domel, to the south. For a time, perhaps more than once, Kashmir became a lake. Deposits then blocked the old outlet south of Baramulla, and when the gorge at Rampur was again cut down and the lake drained, a fresh outlet was cut in the rock west of Baramulla. The water-nut and other plant-remains embedded in the upper Karewahs show that the climate of that time did not differ much from the present; but, at an earlier period, there may have been extensive glaciers. The evidence of this is not clear, nor direct. It may be inferred from the huge erratic boulders found towards

Attock that ice blocks once floated in the Indus, and transported rocks of great size to a distance from the present bed of the river. Smaller boulders of gneiss have been laid bare towards Domel in the Jhelam valley; and at Baniar, near Rampore, a large number of erratics are sprinkled over the plateau above the river.

Indirectly the existence of a glacial epoch following the Miocence period is inferred from the migration of many Himalayan plants and animals to the Deccan mountains, and the extermination of so many of the great Miocene mammals. On the other hand, no extensive moraines have been recognised below the valley of Kashmir, and, had such a glacial period occurred after the deposit of the Karewahs, it would have left its mark upon them. Moraines exist in plenty at a higher level, but seldom extend on the Pir Panjal below 7000 feet. The splendid rolling *margs*, such as Gulmarg, the Toshmaidan, and Eosimarg, are rather higher than this. In most cases there is an outer ridge corresponding to the terminal moraine, and an inner basin with irregular mounds, now forested, indicating the varions central and lateral moraines.

Towards the mouth of the Sind valley signs of old moraines have been described, and near Gund, in the same valley at a height of 7000 feet, there are large glaciated rock surfaces several hundred feet above the present level of the Sind. There are erratics near Baramulla which may have come from Haramouk Mountains on the opposite side of the valley.

So we are probably justified in picturing a time when



Sections through Pir Panjal Range

Kashmir was occupied by a lake of great depth, and with an area of at least 1500 square miles. On its shores grew alpine flowers, primulas, gentians, mauve, yellow, and white ranunculi, and edelweiss. On its north side were steep inhospitable mountains whose hollows were filled with névé, and in the greater valleys were seen the snouts of the glaciers which came down from the Ladak watershed. To the south was the great snow-clad slope of the Pir Panjal, down which pushed sinuous ice streams. Masses of ice floated in the lake during those few summer months when the whole surface was not frozen. The summits were hidden by almost perpetual clouds as the warm air of the south condensed on these outer ranges. In such inaccessible solitudes the only fauna would be yaks and mountain sheep, or such as are now found in the snow-fenced recesses of Kailas and the Mustagh. Since the glacial epoch the climate of the Kashmir valley would have been much as it is at present. But for a long time glacial conditions persisted in the regions of Ladak and Baltiston. The ice-cap would take long to disappear from such immense mountains, especially at a time when the rest of Central Asia was by no means desiccated as it is now. The largest glaciers in the world outside the Arctic circle are those of the Mustagh Mountains; and there is evidence that in prehistoric times the ice in the Braldu and Nubra valleys was thousands of feet thick. Indeed, the whole Shayok valley may have been an ice-filled trough, 200 miles long.

CHAPTER VIII

HARAMOUK AND ITS GLACIERS

Foremost among the mountains immediately around the Happy Valley is Haramouk, and it is as prominent in local legend as in appearance. The Hindus regard the summit of the mountain, with its broad snowfields, as the special abode of the god Shiva, and say that it cannot be ascended, for its slopes are everywhere guarded by snakes—the obedient army of the Naga deities. More than one holy man has attempted to ascend, but when he has fallen asleep, being forced to rest by the difficulty of the climb and its height, he has been transported to the foot of the mountain again. Upon the eastern shoulders of the mountain are numerous tarns, one of which is supposed, by a convenient fiction, to be a source of the Ganges. Hence it is called Gangerbal, and a yearly pilgrimage is made to it by thousands of Kashmiri Hindus. Indeed, the pilgrimage constitutes an important item in the funeral rites connected with the death of the head of any family. The chief living representative is expected to perform this journey the following August, and to take with him some of the ashes of the deceased, or a small bone (preferentially the knee-cap), which will then, with due ceremony, be consigned to the sacred source. My first exploration of the

mountain was at the pilgrimage time. Thousands of people, including many aged women and decrepid men, climbed the long steep slope from Wangat, some 6000 feet high, bathed in a small sacred pond on top of a ridge, then proceeded to the encampment by the lake shore, where they erected some kind of shelter. Some had tiny canvas tents, others made a tent *d'abri*, with a blanket stretched between two upright sticks, while a good many took refuge under the great erratic boulders, which are plentiful. The scene at night from our camp on the opposite side of the lake was most picturesque. There was a bright moon which lit up the snow-covered mountain and the broken glaciers streaming down between its precipices. The dark rippling water reflected the myriad twinkling camp fires, amongst which weird figures were moving, and the hum of human voices mingled strangely with the voices of the night, the rippling murmur of the lake, the splash of falling water, the distant crash of rolling stones or cracking ice. In such glorious scenery and in fine weather the pilgrimage must be a pleasant picnic. Next morning the Hindus moved off by another path to the Sind valley, and we circled round the north side of the mountain, crossing two easy passes, from which a good view of the mountain could be obtained. The east and north sides are fenced by enormous precipices, and any hollows are filled with very broken and steep glaciers, so that the ascent presents great difficulties. We camped at the head of the Erin nullah, and next day, misled by the survey map, tried the north-west face. One peak of Haramouk was climbed forty years ago by a survey party, and a pole erected on it. But

on that occasion the coolies were all Ladakis, and the Kashmiri villagers decline to believe that the ascent was accomplished. If any European was in the party it is remarkable that there should be so many errors in the cartography of the mountain. It is not merely that some of the larger lakes were not mapped, but that the direction of the chief westerly ridge and its glaciers is incorrect. This I only discovered some years later, and, on my first expedition, we quite unnecessarily crossed a steep spur, and finally found ourselves faced by an almost perpendicular ice-cliff, resting at either side against sheer cliffs. Where the ice joined the rock I proceeded to cut steps up it, each step being at once filled by water which trickled down my sleeves and filled my boots. But my party, unaccustomed to ice-work, declined, probably wisely, to ascend this precarious ice-ladder, so a retreat was called. We had seen enough of the ridge to the right to feel that the next exploration should probably be of the next valley to the south, but two years passed before any opportunity presented itself. It was late in 1885 that a party of four, none of them skilled mountaineers, joined me for the next reconnaisance, which was up the Sirbal valley.

The Kashmiri porters accompanying us stated that no one had ever been up the mountain, but they wished us to go up the Chittar Nar route I had previously tried. The Sirbal valley opened out as we ascended, and afforded an excellent base of operations. A lake of some size occupied the head of the nullah, at a height of about 11,500 feet, and around it were

flowery pastures and grassy slopes. On the north side rose the gigantic mass of Haramouk, approached by a not too difficult arrête. Next day we ascended a steep ravine, keeping close outside the right moraine, then struck the snow and attempted to ascend it. At this point our porters refused to come any further, and they were left weeping round a fire, while we slowly paced upwards. But another hour brought us to a steep glazed surface, where step-cutting was necessary and falling rocks threatened us. Meanwhile the weather changed, and a violent thunderstorm set in and snow began to fall. Descending to the snow plateau, two of us then made a brief reconnaisance up the rocks to the left, finding a practicable route to the arrête. But delay was now dangerous, for the fast falling snow made the footing uncertain; so we all rapidly descended to camp, and were kept employed during the night in knocking snow-wreaths off the tent, which threatened to collapse under the weight. Next morning a council of war decided *nem. con.* to withdraw to warmer regions, for all nature wore a thick wintry mantle; and so ended the second exploration. The Erin valley coolies were less unmanageable on the next attempt, when I had but one companion, a Sikh. Starting before daybreak from Sirbal, we reached the snow plateau early, and then, following the previous year's reconnaisance up the rocks to the left, came to a patch of grass, where I proposed to camp. It was still only midday, so after breakfast, with my Sikh I went on, making rapid progress. It was merely a rock scramble, with occasional easy snow in good condition; and, fired by the sight of the pole on the west peak, we pushed on, and

by three o'clock were on top. The extensive view was most beautiful. The valley of Kashmir lay mapped out below us, basking in the sun. Far away to the north were ranges I had not hitherto seen, and towering above all in its dazzling beauty was the dome of Nanga Parbat. We were on the station peak, at a height of 16,010 feet. A saddle-shaped ridge connects this with the middle mass of the mountain, which is covered with crevassed snowfields. There are three principal knobs, all of them about 500 feet above the station peak, and then beyond these and detached from them is the east peak, which rises to 16,900 feet. The north face of the peak we were on is a sheer cliff. A stone tossed into the air would fall 2000 feet on to the glacier. My companion was prostrated with nausea and vomiting, due to the height. He had eaten nothing since we started, having to cook his food himself. So we started down, and in two hours reached the camp. There was only room for one tent, which I lent to the servant and coolies, taking up my own abode under a rock. There is a charm in sleeping out at night. The valley sleeps in darkness 9000 feet below. Here and there a shepherd's camp fire twinkles in the distance. The stars seem to come nearer and to gaze benevolently down at our little darkling planet. The night "makes a weird sound of its own stillness." But soon after midnight came the roll of thunder, and I was enveloped in the centre of the storm. Lightning darted from crag to crag, and lit up the gloomy precipices. Crashes of thunder pealed around and reverberated continuously between the huge rock walls. The glaciers dimly reflected

the glare of the lightning, like the scales of huge dragons crawling down the ravines. Hail fell furiously and invaded my shallow recess, banishing sleep. So the morning barely dawned before we struck camp, and descended to a less frigid region.

Since then the middle peaks have been successively scaled, first by Mr. Kirti Singh, and then by my brother. The path lies up the steep south arrête with an occasional traverse on the south side. Where the ridge joins the central mass there is a flat sheltered rock suitable for a night's bivouac. From there the east peak might be climbed, as the route presents no special difficulty, but it would be necessary to spend two nights up there, and bad weather would prevent success.

At the present time there are several glaciers on Haramouk. On the south side they only descend to about 13,500 feet, but on the north 1500 feet lower. These present the usual features of the smaller and steeper Swiss glaciers in the way of crevasses and seracs. They are fed by the large snowfields on the summit, which are of great thickness. The snow cliffs on the middle peak show a vertical thickness of nearly 200 feet. In all the surrounding valleys there are lakelets, varying in size from mere ponds to sheets of water a mile or so in length and a quarter of a mile broad. Most of these occur at a height of about 11,500 feet. There can be no doubt that they are all due in some way to glacial action, and that they are of not very remote age.

The hills around give abundant evidence of ice action.

Many of the rock surfaces are rounded off, grooved, and moulded by the friction of the ancient glaciers. Rounded hillocks, now grass covered, indicate the lines of former moraines; and huge erratic boulders are strewn about the surface.

The lakes are usually drained by streams which have cut their way but a few feet down through the mass of *débris* which embanks the lower end, and are now more or less slowly silting up. Some of them probably have, or had, a rocky bottom, for the glaciers moving down the valleys would excavate all softer materials, piling them up in front. It is perhaps the general opinion that glaciers may even excavate the solid rock. Tyndall points out that a glacier 900 feet deep would produce a vertical pressure of 486,000 lbs. upon every square inch of its bed. In the case of limestones, slates, and shales, the rock would be rapidly ground away by such a pressure, the tools employed being not merely the ice itself, which would be moulded to the shape of its bed, but the rocks it would carry and push along with it, often rocks of much harder material than the bed, such as gneiss derived from some neighbouring peak. In such a case the grinding power would be immense, and the accumulated terminal moraine would be correspondingly large. But the smaller glaciers on the shoulders of such mountains as Haramouk or Tutakutti would not exceed 200 feet in thickness, and would not be capable of excavating the hard rocks beneath. So the numerous tarns and lakes may be regarded as due chiefly to the formation of embankments across the line of drainage. Sometimes such embankments may have been caused by the

deposit of avalanche *débris* from a side slope, or by the advance of a side glacier with its lateral moraines.

Many of the flat bits of ground which travellers in the upper mountains choose for their camps are the site of old lakelets, formed by avalanche *débris*. Such *débris* is deposited in semi-circular form at the foot of avalanches, and in the same line year after year, till a rampart is formed, and in the hollow against the hill a lake or *corrie* forms. In time this silts up, and thus a beautiful flowery marg may be met with in otherwise most desolate regions. In Baltistan such are common. In these various ways we may account for the numerous Nags of the Pir Panjal, largest of which is Konsa Nag; and also for Shisha Nag, Gangerbal, Tar Sar, Mar Sar, and the host of lakelets in the upper grassy slopes round the valley. Drew describes one such—Sum Sar—near the Pir Panjal Pass, which is a complete rock basin, the outlet being over solid rock; and the rock below the outfall, and for some distance from it, was ice moulded and grooved. But this is, as far as my observation goes, quite an exception to the general rule that such lakelets are embanked. Bani Balli Nag, near Gulmarg, is a corrie lake, the only one of its kind, as far as I know, on the Panjal range. As already mentioned, the present lakes of the Kashmir valley are due to subsidence of their beds.

On the Pir Panjal mountains there is scarcely any real ice, though beds of permanent névé attain a considerable size in some hollows. So the nearest glaciers to the valley are those of Haramouk. At the Lidar valley there are more

extensive glaciers on Kolahoi, one of which is about five miles in length, and comes down as low as 11,000 feet. And beyond Kolahoi, to the N.-E., comes a region of still loftier peaks, where the glaciers attain a great size; but these belong rather to Ladak than to Kashmir.

CHAPTER IX

ANCIENT ARCHITECTURE

There are few ruins in India comparable to the temples of Baalbec or Palmyra, but ancient India has nothing more worthy of its early civilisation than the grand remains in Kashmir, which are the pride of the Kashmir Brahmins and the admiration of travellers.

The massive, the grotesque, and the elegant in architecture may be admired in many parts of India, but nowhere is there the counterpart of the classically graceful, yet symmetrically massive, edifices of Kashmir, which, if inferior to Palmyra or Persepolis in stateliness, are in beauty of position so immensely superior to either. Some of them are in such good preservation that every detail of the original carving can be seen, while others have been wrecked by the hand of Mohammedan iconoclasts, prostrated by earthquakes, partly buried by alluvial deposits, or completely overgrown by forests.

Unfortunately the hand of time has dealt with the early history of Kashmir much as forests have with the temples; and when we inquire who were the builders of the ancient cities whose outlines may be traced on the lower mountain slopes or plateaux, and who were the *pandus* who (according to

local tradition) erected the temples, none can tell us with certainty. This much appears certain, that Kashmir was ruled by powerful sovereigns before the beginning of the Christian era, and the sway of some of them extended over the north of the plains of India. Then, as now, trading caravans would pass from India to the countries of Western Asia, and the arts of the age would be diffused through the civilised nations of the Continent. The great monarchs of Chaldea and Assyria were possessed of a passion for building, as were the rulers of Egypt, so it is no wonder if the kings of North India emulated them. But at what period they began to do so it is difficult to say. The oldest ruins in Kashmir are ascribed by the Brahmins to Jaloka, the son of Asoka, who reigned about 220 B.C. From then onwards, for several hundred years, various kings erected temples in their capitals or at the sacred places, and the special style was gradually elaborated.

The numerous indecipherable ruins which abound throughout the valley, and the immense quantity of cut and fluted stone built, or rather patched, into the walls of mosques and houses, and into ghats and embankments, give evidence how many of the temples then erected have been totally destroyed. It seems certain that, though Kashmir was a stronghold of Buddhism, yet the cult of the populace was Brahminical; there were Buddhist monasteries, but there were also Brahmin temples.

All over Kashmir, and especially in the neighbourhood of springs, are carved stones of great age on which serpents, the Naga deities, may be distinguished. These probably belong to

a still more remote period, for the temples seem to have been dedicated to the worship of Shiva, and enshrined the phallic emblem of that deity. It may be said that Hinduism in Kashmir has been from time immemorial the centre of chiv worship, and absorbed into itself the primitive serpent or nag worship of the aboriginal tribes. In many places this combination determined the site of the temples, which are often placed in tanks fed by springs. It is probable that pilgrimages to Amarnath and to Gangerbal were even then performed. There are temples in the Wangat nullah, on the way to Gangerbal, and near Pailgam, in the Lidar valley, which were probably built by pilgrims, perhaps as votive offerings after the successful accomplishment of the hazardous journey. Those at Wangat have been recently cleared, by Dr. Stein, of the dense forest which not only hid the buildings, but threatened their destruction. There are two groups of buildings near the sacred spring of Nagbul, where the pilgrims bathe before climbing the steep ascent to Gangerbal lakes. The principal temple is used as a cowhouse by the "gujars"; from its roof grows a pine tree of considerable size, whose roots will in time cause the destruction of the building.

The temple of Martund is the finest of all the ruins. Cunningham says of it—"The ruins of the Hindu temple of Martund, or, as it is commonly called, the Pandu-Koru, or the house of the Pandus and Korus—the Cyclops of the East—are situated on the highest part of a Karewah, where it commences to rise, to its junction with the mountains, about three miles east of Islamabad. Occupying, undoubtedly, the finest position

in Kashmir, this noble ruin is the most striking in size and situation of all the existing remains of Kashmir grandeur. The temple is not now itself more than forty feet in height, but its solid walls and bold outlines, towering over the fluted pillars of the surrounding colonnade, give it a most imposing appearance. There are no petty confused details, but all are distinct and massive, and most admirably suited to the general character of the building." The roof, which was probably a double pyramid, has been destroyed, and now lies in shapeless confusion in the quadrangle; it probably rose to about seventy-five feet above the plinth. The building is not a plain square like all the other temples, but is flanked by two detached wings, one of which is now ready to fall. The total length of the building is sixty-three feet. The western entrance is approached by a wide flight of steps, which lead into what might be called the nave; beyond this is the choir, and then the square sanctuary. The latter is bare of ornament, and probably simply contained the shiv symbol, but the outer portions are panelled with carved figures and sculptured niches. The panels reproduce the general shape of the temple, and contain the usual stereotyped Hindu deities. One cannot but notice the contrast between the graceful forms of the buildings, with their well-proportioned archways, and the primitive archaic ugliness of the figures. The artist had to confine his powers to the conventional symbols of Brahmanism; but that he could deal gracefully with the human figure may be seen in the carved ceilings of Pandrenthan and Payech.

The quadrangle is surrounded by a colonnade of fluted

pillars, with intervening, trefoil-headed recesses, and on the west front is a massive gateway. Probably there were eighty-four columns when first erected, a singularly appropriate number in a temple of the sun, being the multiple of the number of days in the week with the number of signs in the Zodiac. The Rajatarangini records that King Laltaditya, who reigned about the end of the seventh century, built the colonnade; but the main temple seems to have been the work of a King Ranaditya who lived some two hundred years earlier. The quadrangle may have been filled with water by a canal led round the side of the mountains from the Lidar river. Whoever selected the site must have had a keen eye for the picturesque. The vast ruins may even now be seen in the clear atmosphere of Kashmir from a distance of ten or fifteen miles, standing boldly in relief on the bare plateau. At sunset the rays of the setting sun flood the interior of the building with light through its great western archway; and the traveller standing in the porch sees one of the finest views in the world stretched out before him.

Of all the temples that which is in best preservation is the small one at Payech, of which we give an illustration. On the south side of this village, situated in a green space near the bank of the stream, surrounded by a few walnut and willow trees, is an ancient temple, which, in intrinsic beauty and elegance of outline, is superior to all the existing remains in Kashmir of similar dimensions. Its excellent preservation may probably be accounted for by its retired situation at the foot of the high

Payech Temple

table land which separates it by an interval of five or six miles from the bank of the Jhelam, and by the marvellous solidity of its construction. The *cella*, which is eight feet square and has an open doorway on each of the four sides, is composed of only ten stones, the four corners being each a single stone, the sculptured tympanums over the doorways four others, while two more compose the pyramid roof, the lower of these being an enormous mass eight feet square by four feet in height. The sculptures over the doorways are coarsely executed in comparison with the artistic finish of the purely architectural details, and are rather defaced, but apparently represent Brahma, Vishnu, Shiva, and the goddess Durga. The building is said to be dedicated to Vishnu as Surya, or the sun-god. Inside, the cupola is radiated so as to represent the sun, and at each corner of the square the space intervening between the angle and the line of the circle is filled with a *gin* or attendant, who seems to be sporting at the edge of its rays. The crown of the pyramid is slightly displaced, probably by an earthquake, and not, as suggested by one authority, to an attempt made by the Pathans to take it down and remove it to the city; had they wished to do so, the stone is not of such a size as to resist the efforts of a few men.

I do not propose to describe the other temples, interesting as they are to the artist as well as the archæologist. That on the Takht-i-Suleiman will be seen by any who ascend the "Arthur's Seat" of Srinagar; and it forms the most appropriate finial to the graceful curves of the trap hill, as seen from the river near

the capital, or from the Dal Lake. And the pretty temple at Pandrenthan, being so close to the European quarters, has been more frequently visited and described than any other. Its ceiling is the most purely classical design of any in Kashmir, and might well pass for Greek work. Sir Alexander Cunningham says on this point—"Even at first sight one is immediately struck by the strong resemblance which the Kashmirian colonnades bear to the classical peristyle of Greece. This first impression is due to the distinct division of the pillars into the three members—base, shaft, and capital, as well as to the fluting of the shafts. On further inspection the first impression is confirmed by the recognition that some of the principal mouldings are also peculiar to the Greek orders, but more especially to the Doric. Thus the echinos which is the leading feature of the Kashmiri capital is also the chief member of the Doric. A still closer examination reveals the fact that the width of the capital is subject exactly to the same rules as that of all the classical orders except the Corinthian.

"Even the temples themselves, with their porches and pediments, remind one more of Greece than of India; and it is difficult to believe that a style of architecture which differs so much from all Indian examples, and which has so much in common with those of Greece, could have been indebted to chance alone for this striking resemblance.

"The earlier specimens of Kashmiri temples date as early as 220 B.C., at which time the Kabul valley, and even the western Punjab, were occupied by the Bactrian Greeks, under Euthydemus

and his son Demetrius. If, therefore, it is admitted that the Kashmiri architects have been indebted to those of Greece for their pediments, for their fluted columns, or even for any of their minor details, I think they must certainly have borrowed them from the temples of their immediate neighbours, the Bactrian Greeks."

The same authority points out the salient features by which the Kashmirian style is distinguished. "The characteristic features are its lofty pyramidal roofs, its trefoiled doorways, covered by pyramidal pediments, and the great width of its inter-columniations. The Grecian pediment is very low, and its roof exceedingly flat. The Kashmirian pediment, on the contrary, is extremely lofty and its roof high. The former is adapted for a sunny and almost rainless climate, while the latter is equally suited to a rainy and snowy climate. But, besides the difference of climate, there was perhaps another reason for the form of roofing peculiar to the two countries in the kind of material most readily procurable for buildings. In Greece it was stone, in Kashmir it was timber. The former imposed low, flat roofs, with small inter-columniations; the latter suggested lofty roofs and wide inter-columniations.

"I have a suspicion that the distinctive mark of the Kashmirian style was well known to the Greeks; for an inter-columniation of four diameters, an interval seldom if ever used by themselves, was called *Araiostyle*, a name which would appear to refer to the Hindus or Eastern Aryas. Now, the interval between the Kashmirian pillars being always *Araiostyle*,

I feel inclined to call the style of architecture used by the Aryas of Kashmir the 'Arian order.'"

By comparison with these splendid monuments of past greatness, the mosques and other buildings of later times seem but frail and temporary structures. So far as any of the shrines or houses have been built of stone, it has been quarried not from the rocks, but from the ancient temples. To this rule the *Patthar Musjid* is the only prominent exception; and it is built in a very bald, if massive style. The Mogul emperors built some massive brickwork sarais along the chief routes, which are most picturesque in their present grass-roofed, mossy, semi-ruinous condition, and with their splendid natural backgrounds.

The *Badshah*, or tomb of King Zein-ul-Abadin, in the heart of the city, affords a striking contrast in its weather-worn solidity and the warm reddish madder of its brick dome to the flimsy timber and mud-plastered domiciles of the Kashmiri. But most interesting of all is the Peri Mahal, a building conspicuous from its size and position upon the slopes east of the Wular Lake. It is terraced up the hillside, and the face of each terrace has deep arches. It appears to have been a school of astrology, built by Prince Dara for his tutor Mulla Shah, whose tomb is on the prominent spur of the hills near Ganderbal. "Strange stories are told of the Peri Mahal—of the wicked magician who spirited away kings' daughters in their sleep; how an Indian princess, by the order of her father, brought away a chenar leaf to indicate the abode of her seducer, and how all the outraged kings of India seized the magician." The buildings face north, and

the pole star and great bear would be seen reflected far below in the water of the lake. There were a few residential apartments, an hamám and such like, of which in some places the original colour-washing, in patterns of chocolate-red, green, and yellow, remain. Unfortunately the better cut stones of its gateways and steps have been carried off for use in the gardens and houses near the lake.

There is a superb view from the terraces of the lake and valley, especially effective towards sunset, when the Takht and Hari Parbat are in deep purple shadow, while, around and beyond, the sunlit plain and water sparkles and quivers with the iridescence of an opal.

Most of the Mohammedan religious buildings, whether shrines of saints or mosques, are built entirely of timber, and the style is very uniform. They abound in all the larger villages throughout Kashmir, and upon many of them the renowned wood-carvers of Kashmir have lavished all their skill. In all the finer and older ones, squared cedar logs are pinned together like long bricks, and each pillar thus formed is united to the next by well-laid horizontal timbers, sometimes with alternate layers of brick. The general shape is square, with a high plinth, and a lofty portico supported by handsomely carved pillars and elegant patterns of "pinjra" lattice-work in the somewhat Saracenic windows.

The shrines are built over the graves of the famous saints of old time, most of whom were disciples of the national prophet, Sheikh Nur-u-din, some of whom founded monastic establishments,

perhaps in imitation of the Buddhist monasteries which, at a former period, had been so famous in Kashmir. Such were called "Rishis"; of whom the Am Akbari says—"The most respectable people of this country are the Rishis, who, although they do not suffer themselves to be fettered by traditions, are doubtless true worshippers of God." A wonderful admission this for an orthodox Suni writer, and it savours of the Broad Church or "Sufi" views of the great Mogul emperor. "They revile not any other sect, and ask nothing of any one; they plant the roads with fruit trees to furnish the traveller with refreshments; they abstain from flesh and have no intercourse with the other sex. There are nearly two thousand of this sect in Kashmir."

Two of these establishments remain, though much changed from their primitive simplicity; one near Gulmarg, named after Pa Imam Din, which has been corrupted to Babamarisha, and another at Eishmakam, the shrine of Zam-u-din. The communities at these shrines have long ceased to be distinguished for asceticism or sanctity. They eat and marry like other folk, are scarcely more particular in the performance of any religious functions, and some of them work on the extensive estates of the monasteries like the lay brethren of Roman communities. At certain seasons of the year there are extensive pilgrimages to these shrines, when money and various offerings are given to it. The pilgrimage is not associated, like those of the Hindus to Amarnath, with any hardships. On the contrary, it is a time of feasting and merry-making. The country-women put on their brightest garments, and take their children to enjoy the picnic,

expecting to acquire all sorts of merit and avoid various unknown evils by invoking the special favour of the "Pir" and his representatives.

At these places there are large guest-houses, as well as wide verandahs or colonnades round or near the shrine, where hundreds of pilgrims can find accommodation. Lawrence somewhat severely

A Little Boat-Girl

says—"The Kashmiri Sunis are only Mussulmans in name. In their hearts they are Hindus. The religion of Islam is too abstract to satisfy their religious cravings, and they turn from a mean priest and the mean mosque to the pretty shrines of carved wood and roof bright with the iris flowers where the saints

of past time lie buried. They like to gaze on the saint's old clothes and turban, and to examine the cave in which he spent his ascetic life."

In connection with the suggestion that the Kashmiris are at heart Hindus, it may be mentioned that certain places are held in reverence by Hindus and Mussulmans alike. As an instance, at Fattehpura and at Waripura, I have seen the imprint of a foot in a stone worshipped by Mussulmans as "Kadam-i-Rasul" (the Prophet's footprint), and by the Hindus as "Vishnapád" (Vishnu's foot). And, generally speaking, it may be said that when one sees the Mussulman shrine, with its shady chenars and lofty poplars and elms, a little research will discover some old Hindu "asthan." To this I may add that many of the Mussulman sacred places are obviously selected on account of their proximity to some spring reckoned sacred from time immemorial. But, on the other hand, one must admit that, strongly national as is the feeling about their great apostles, Nur-u-din, Makhdum, Shukr-u-din, and others, none is so venerated as the prophet Mohammed himself, and no shrine so popular as the Hazrat Bal. A hair of the prophet is shown there, which is said to have been brought from Medina by Sanjad Abdullah in A.H. 1111. He sold it to a merchant, Nur Din, for a lakh of rupees. It is not surprising, when we consider the mercantile value of the hair, that several others found their way to Kashmir, and various other mosques have a rival show. But none can compare in popularity with Hazrat Bal, where tens of thousands assemble five or six times a year. Archi-

tecturally the finest "ziarat" is that of Shah Hamadán in the heart of the city, and already described in that connection.

There are a few buildings in Dogra style here and there, and various "baradaris" in the pleasure gardens resembling similar summer-houses in Ispahan or Shiraz. And now we have arrived at a period of medley European erections, good, bad, and indifferent, but none of them intrinsically interesting to those who look for indigenous work. There is an incongruity about Elizabethan villas near the lake where Nur Jahan planted the Shalimar gardens, or Gothic churches under the shadow of the Shankarachárya. Yet this feeling results chiefly from the newness of the one contrasted with the age of the other. No such incongruity is felt as we look at the ruined crusading castles in Palestine, for time has blended them with their surroundings. The colony, to meet whose wants the villa and the church spring up, has come to stay; and when its beneficent influence has had time (it may be in the lapse of several generations) to infuse righteousness into the administration of the State, and to raise the Kashmiri from his degradation of superstition, cowardice, and falsehood into a true citizenship and a pure religion, the incongruity will have ceased.

CHAPTER X

THE LAND OF THE LAMAS

For several hundred miles there is no gap in the great snowy wall of the middle range of the Himalayas comparable to the Zoji Pass, or "Zoji-La" (the pass). It is only 11,500 feet in height. The peaks of the range average 18,000 feet, culminating to the N.-W. in Nanga Parbat, which belongs to a different system, and to the S.-E. in Nun Kun, beyond which are the lofty snows of Zanskar. Here and there are precarious passes, the Bárá Lácha, on the road from Simla to Ladak, being the next best. This, then, is the main route from Northern India to Central Asia. But the road which connects the large towns of Chinese Turkistan with the fertile plains of the south is only open to travellers for a few months of each year. It crosses no less than seven snowy passes, and forces its way onward in spite of the combined forces of nature; obstructed by landslips and rocks, diverted by unfordable rivers, swept by avalanches, exposed to a tropical sun in shadeless ravines, and to Arctic gales on shelterless plateaux, yet the indomitable perseverance of trade has achieved a victory, and year by year caravans traverse this desolate region.

My last visit to Ladak was in the summer of last year. We

A Shepherd in the Sind Valley

were a party of three—M——— the artist, B——— the engineer, and N——— the doctor.

A showery day cleared with the rosy streaks of flying cirrhus at sunset, as we reached the foot of the Zoji-La. To cross the pass we must make an early start, so we struck our tent and took up our quarters for the night in front of the shelter hut for travellers, having as our neighbours a few Yarkandis returning from Mecca, some Kashmir traders, and the sturdy Dras mail-runners, who live there at all seasons. There was a bright moon which one watched as it slowly crossed a narrow segment of the heavens, occasionally looking at one's watch, lest the last doze should have been too long. How many the pleasant thoughts as, in the silence of the night, surrounded by the awful grandeur of the snowy mountains, one recalls former nights spent under the canopy of the sky, and looks forward to the accomplishment of some purpose, and to the prospect of new scenes; and the distant torrents, falling down the rocks, and the night breeze murmuring like an Æolian harp through the pines, make an undertone of plaintive melody. Though only moonlight at 2.30 a.m., when we roused ourselves, the dawn was creeping into the shady hollows before our caravan got started, for the ponies had wandered off up the hillside. We were soon on snow, and looked up the magnificent gorge, with its vertical slate cliffs. (See illustration.) Walking ahead of our men we managed to miss the path, following too far up the snow; however, a traverse along the steep hillside brought us back to the path, half-way up its many zigzags. Our

tiffin coolie, thinking he knew better, went still higher, and in order to rejoin us had to cross the ridge at a considerably higher point. It was a long pull and a hard one for the ponies, though none were heavily laden. Many a trader's pony never gets across at all, for in wet weather the path is slippery, and a fall over the side is inevitably fatal.

At the summit of the steep ascent we look back at the Sind valley, now nearly 3000 feet below us. How emerald it is, with its rich grassy meadows and forested slopes. Then we turn north and realise that the waste of snow before us is the frontier of barren Thibet, where sandy wastes replace verdant meadows, and where the wild ridges, jutting up against the sky, are kept bare of vegetation, their strata crumbling under the destructive action of frost and water, leaving bare ribs of gaunt and often fantastic outline. There is ridge beyond ridge, wave after wave, each higher than the other, and all culminating in the mighty masses of the Mustagh. Most of these ranges are parallel to one another, and as the mountains rise, so do the valley troughs between. Kashmir is 5000 feet above the sea, then come side valleys of 7000 or 8000 feet, then further north-east the valleys are 10,000 or 11,000 feet, beyond which come the great plateau, really open valleys, of Thibet, at a height of 16,000 feet or more. This is seen not with the eye, for the distances are too great and the intervening ranges too high, but with the scientific imagination, which then pictures the time when an arm of the great Thibetan ocean of Eocene times filled the upper Indus valley.

Zoji Pass

The crest of the pass being reached, the other side seems almost level. It is covered with deep snow till past midsummer, and when the great beds of snow thaw, some of the traveller's difficulties are increased. It is impossible to ride over the rotten snow, into which ponies sink deeply. In places the snow-beds are undermined by streams, and crack or fall in, leaving awkward "schrunds" for the baggage animals to negotiate. The icy streams have to be forded, for there are no bridges in early summer. About five miles beyond the top of the pass there is a solid rest-house, near which (up a side valley) is a glacier. We did not stop there as our baggage was not far behind, so went on, passing at the pretty plain of Minimurg several encampments of traders. It appeared that these were waiting for the river to get lower, as a bridge had been carried away the day before. The stream was still running very swiftly, but, linking hands, we managed to ford it, though almost numbed by its extreme coldness. We reached the village of Matayan early in the afternoon, but our ponies did not come in till nearly dusk. The village is on a wind-swept plain, where there is not a single tree of any kind. In winter the low huts, built of rubble, stone, and mud, are buried under the deep snow. It is difficult to see why the inhabitants are content to remain in such a desolate, semi-Arctic region, when there is abundant land in the fertile valleys of Kashmir within two days' journey. The road below Matayan sweeps round the base of a magnificent mass of limestone, with splendid cliffs below, giant steps above, culminating in picturesque castellated forms.

On the north side, overlooking the lower part of the pass and the Dras valley, are great "cirques" crowned by glaciers, which at one time filled the amphitheatres, and at a far remoter time poured into the Dras valley, forming the rounded hillocks and flat meadow-lands which there stretch out before one. We camped in the garden by the Thana, where the traveller rejoices to see again some shade trees. There is a post and telegraph office, and the postmaster is in charge of the meteorological observatory. We compared our instruments here, in order to correct the readings of our aneroids, but were surprised to find that so far they were very accurate. Later on their behaviour was perplexing, as the great heights to which we ascended disturbed their "circulation."

The most noticeable feature at Dras is the extreme dryness of the air, which feels therefore quite pleasant when at a temperature of over 80 degrees. I was working most of the day seeing patients, and, though a good deal exposed to the sun, had not felt the heat. So I was somewhat surprised to find that, though we were 6000 feet higher than Kashmir, the temperature was much the same as at Srinagar. But the wet bulb registered nearly 30 degrees less, showing how dry the air is, all its moisture being precipitated by the lofty snowy ranges to the south.

There is a good deal of cultivation in the Dras valley, as the numerous side streams are directed into irrigating channels and water the otherwise arid plains. Crops of barley, buckwheat, peas, and lucerne are raised in the brief summer months. Herds

of ponies and flocks of sheep find ample pasture on the hillsides, bare as they look to one coming from Kashmir. The Dras ponies are the principal source of wealth, as they carry the trade between Kashmir and Ladak.

We saw the country well next day as we left the main road to cross the Umbe Lá, in order to cut off a corner. The bridge over the Suru river at Kargil had been carried away by a flood, and traffic for a time was diverted further up the river, so that the main road for the next fifty miles was shaped like a Z. By crossing two passes we cut off the corner and saved two days. There is a mere track which ascends rather steeply opposite the camping ground at Dras, crossing the river by a frail bridge thrown from cliff to cliff. The bridge is not easily approached when the water is high; our ponies were helped through the water separately, one man dragging the head and another steadying the tail. We ourselves scrambled down niches in the cliff. Then came a steady ascent of four hours to the top of Lama Gus Lá, which is about 14,000 feet high, and commands a fine view of the Dras valley, and the mountains to the west and north. By midday we were in a grassy valley where yaks lay enjoying the juicy pasture, and marmots shrieked shrill defiance at the intruders. The glaciers of the beautiful Machai peak (21,000 feet) seemed quite close. Here we halted and allowed the ponies to graze for a couple of hours, then ascended 2000 feet to the Umbe Lá, which overlooks the Upper Suru valley, into which we descended just at sunset. To judge by that interesting but unreliable book "The Abode of Snow,"

the Umbe Lá may be at times somewhat formidable ; the author piles on the horrors as he describes the snow climb and the dangerous precipices. He appears to have been belated on the mountains, and to have suffered afterwards from the exposure. We crossed in July, when the days are long, and were thirteen hours from Dras to Umbe village, including halts. But the path was fairly good, and the day cloudless. From the top of the pass a splendid view is seen of the great twin peaks Nun Kun (23,400 feet), which dominate South Ladak.

The Umbe valley combines many of the features of Kashmir with those of Ladak, for the people are Thibetan, but the comparative wealth of herbage, and the profusion of bright pink roses growing among the rocks, is a reminder of Kashmir. The path was, in places, difficult for laden ponies, as the swift, almost inky, stream cuts away the foot of the steep shale slopes, and the path breaks away. But in a few hours we reached the fertile plain of Sankho, with its rich crops of wheat and peas, and its little canals shaded by old gnarled willows. Here, and in the neighbouring Kurtse valley, there had been much scarcity, as early snow in the previous autumn had prevented the crops ripening. Some people had even died from famine, but immediately the Zoji pass became open, having both money for purchasing and ponies for carrying, the Suru peasants brought rice and maize from Kashmir. A little forethought on the part of the State officials at Suru would have prevented any famine, but they themselves possessed abundant grain, and hoped to profit by the rise in prices !

Below Sankho there is a good riding path. The gorge is very wild, gigantic trap and gneiss cliffs rising on the left bank. Huge blocks have fallen from them and dispute the passage. They have been polished and arranged by ice, leaving here and there level spaces, once glacial pools, now fields. I think it is probable that the plateaux of the Sankho were deposited in the remote past, when the gorge below was choked by glaciers.

We camped for the night at Tsalis Kot, a big village, near which is a very extensive plain, with an area of eight or ten square miles, only parts of which are cultivated, as water is not abundant and the soil porous. The wheat near the village looked splendidly healthy, and was nearly ripe. Just below the village, a suspension bridge has been thrown across the river, supported by twisted telegraph wires. It is a frail and shaky structure, across which animals are not allowed to go laden. So the loads are removed, and carried over by men. At the time we went, all the traffic to and from Ladak had to cross this Kinor bridge, a diversion of over twenty miles from the main road. It appears that the river at Kargil has partly changed its bed, cutting a broad channel to one side of the bridge there, and carrying away part of the fields and orchards on the right bank. It may be possible to train the river back into its old course, but the "wild white horses" are difficult to rein and guide; so it would be better to build another bridge higher up.

As we crossed a pass near Chuskor we emerged on the upper

edge of the Kargil plateau, a great, dreary, stony plain, sparsely covered in early summer with wormwood and other short aromatic plants. This great plain is a succession of alluvial terraces, which rise to a height of nearly a thousand feet above the rivers on either side. It is a foretaste of the great plateaux of Eastern Ladak, which stretch for hundreds of miles, inhabited only by a few nomads, and by herds of wild yaks and antelopes. The district of which Kargil is the chief place is called Purik, and is inhabited by Mohammedans of the Shiah sect.

Colonel Ward mentions a curious custom in connection with burial of the dead :—An aperture is left in the earth over the grave, and a rectangular box of masonry is built over this, with a small door and window. Flour is dropped down on to the body ; this is done at intervals for a period of three moons. Afterwards the hole above the body is closed, as also the door and window.

Paskyim is at the mouth of a gorge, on the east of the Kargil plateau, and is overlooked by an abrupt rock, crowned with the ruins of an old castle. Here was fought one of the battles when the Ladakis attempted to resist the Dogra invasion. We can picture the scene : a mob of undisciplined Ladakis, with their long sheepskin coats and pigtails, armed with bows and arrows, or with blunt scimitars, rushing tumultuously along the hillside, shouting to strike terror into the invader. The experienced Sikhs, with their general, the famed Zorawar Singh, steadily await the onset, and open a regular fire with their matchlocks. The Ladakis waver, long before coming to close

Mulbek Monastery

quarters, and a charge of the Sikh swordsmen decides the day. It is said that the Gyalpo or King of Ladak rode out to see the assured victory of his forces, but when a cannon ball came bounding along the valley, he exclaimed that he fought with men, not with cannon balls, and at once retreated to a safe distance, and opened up negotiations with the Sikhs.

In olden times it would seem that there was constant inter-tribal warfare. Numerous forts, now ruinous, occupy the summits of isolated rocks, and the old villages cluster round the foot. This adds greatly to the picturesqueness of the country.

At Mulbek, one march beyond Paskyim, we realised that we were in a Buddhist country. The symbols of Lamaism abound on every side. By the road entering and leaving the village are prayer walls covered with inscribed slabs of stone, bearing the universal formula, "*Om māne pádme om!*"—"O God, the jewel in the lotus!" Between some of these walls, or sometimes in groups on a hillside, are the sepulchral monuments known as "chortens," which are seen in the foreground of our illustration of Mulbek. On the roofs of houses are seen ragged flags of various colours, or peculiar doll-like figures; while the monasteries on the ridge above dominate the scene. We halted a day at Mulbek to get photos. and sketches of the striking scenery. The monastery is on an abrupt and lofty rock of grey limestone, on the west ridge of which sudden transitions of strata occur to vari-coloured shales and slates, and then to trap rocks. Across the valley is a splendid mountain, with the bold buttresses, castellated cliffs, and jutting towers so characteristic of dolomite rocks.

These are still the home of ibex; but year by year shepherds push further up the mountain glens, and the improved rifles of English sportsmen prove more deadly; and soon the ibex hunter will need to cross the Indus to the less accessible regions of the Mustagh Mountains.

The Abbot

Crossing the easy Nimaki La (salt pass) the road leads through the fertile Kharbu valley, in which one of the most conspicuous objects is the Stakse rock and monastery. Immediately above Kharbu, where another battle was fought against the Sikh invaders sixty years ago, there is a precipitous mountain which has been elaborately fortified in time past,

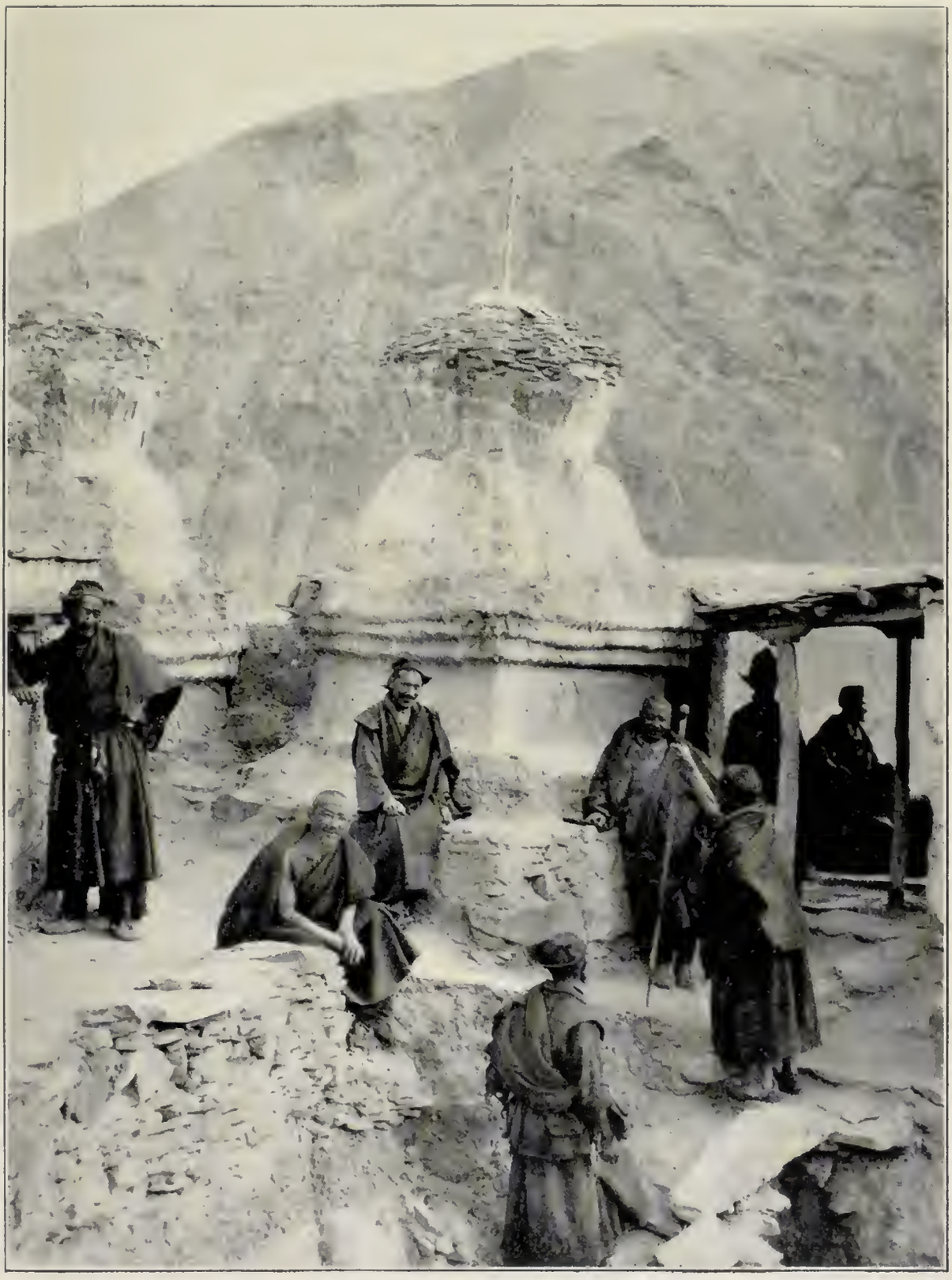
and would afford refuge to thousands, so extensive are the buildings on its summit. On two sides it is protected by deep gorges, and on the face towards the valley the cliffs are sheer.

The colouring of the mountains is remarkable throughout Ladak, and nowhere more so than near the Fotu La. Looked at from the Kharbu valley as we ascend, the peaks suggest organ pipes, so vertical are the ridges, so jagged the ascending outlines. And each pipe is painted a different colour, so that in rapid succession we have pale slate-green, purple, yellow, grey, orange, and chocolate, each colour corresponding with a layer of the slate, shale, limestone, or trap strata.

Very striking is the position of Lamayuru monastery in the defile beyond the pass. There is a bright yellow deposit several hundred feet in thickness, so horizontal at its upper margin as to indicate its being a lacustrine formation. This has been cut away into cliffs by the stream, and weathered into fantastic pinnacles and buttresses. On a projecting point the monastery has been built, bridging over the hollows in the cliff with projecting balconies of woodwork and curious domes of chortens, man vying with nature to produce bold outlines and quaint effects. It was in one of these balconies (*lit.* "buland-khána," *i.e.*, high house) that Mr. Millais photographed the sub-abbot of the monastery, a portly and genial old monk, just such as one might see in Italy. The party of Lamas was taken on the terrace surrounding a group of chortens quite on the highest point of the hill. There were nearly a hundred little prayer-wheels let into the face of the wall of the terrace, all of which

are set revolving by the monks as they perform their devotional circumambulations.

To the Indus valley is a descent of some 2000 feet, down one of the narrowest and deepest gorges in the Himalayas, perhaps in the world. Travellers are always glad to hurry along the bare stony Indus valley, where the heat is tropical in summer, and the keen winds so Arctic in spring and autumn. There are pleasant villages, veritable oases, every six or eight miles. Khalsi, with its fine walnut trees, Saspul, with its expanse of well-irrigated fields, and Bazgu, with its wonderful castellated rock of bright red sandstone, will live in the traveller's memory. The Bazgu sandstone corresponds to the Murree sandstone, south of the Panjal range. The gorge of the Indus offers many striking effects to an artist; the big swirling river, full of life and variety, and the huge cliffs, with their deep shadows, contrasting with the sandy plateaux quivering with sunshine, or the snowy tops seen up side nullahs. The road is cut out or built up on the face of the cliffs, but in places the gorges are so precipitous that the traffic leaves the river and turns across the high plains, which are such a prominent feature of upper Ladak. In autumn, "sharpu" (Vigne's sheep) come from the mountain recesses, and graze in numbers on the plains above Saspul and Nimu. The natives hide in stone enclosures and shoot them when they come within easy range. In the upper nullahs another wild sheep, the "burhel," is abundant, and still higher there are plenty of ibex, but on ground where it is difficult to get a successful stalk, so keen



The Monks of Lamayuru

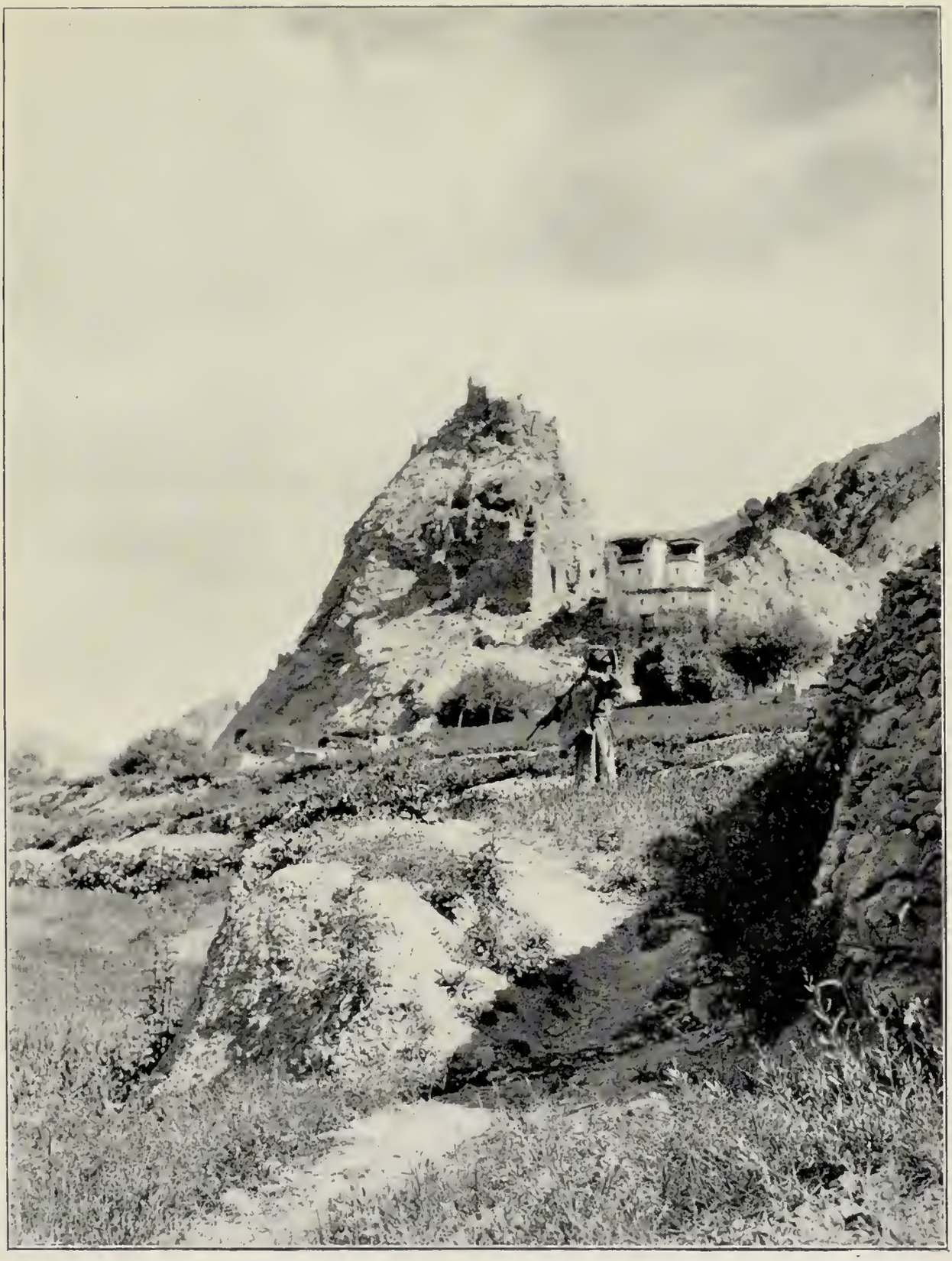
is the sight of the sentinel of the herd, and so fine the scent. Early in the summer, sportsmen rush up to Ladak to occupy the better known nullahs of Zanskar and beyond the Indus, on the principle first come first served, and few of them fail to secure a few good trophies. Other travellers make their way direct to Leh, and are glad to leave the narrow Indus gorges behind them, and to see the wide expanse of the Leh valley.

CHAPTER XI

THE CAPITAL OF LITTLE THIBET

A good straight road leads from the Indus at Spitak, where it is a shallow, broad river flowing in two or three channels up to Leh, and I enjoyed the gallop up on a good horse. It is an ascent of about 1000 feet in four miles. This represents the average slope of the great alluvial fans which form the open expanse of the Leh valley. A great part is stony and cannot be irrigated, so is absolutely desert, and the little villages are mere green patches in the bright yellowish drab plains.

Leh looks quite insignificant from a distance—all pushed up in a corner—and one wonders how this big village comes to be the chief market of Western Thibet. For most months of the year the streets are comparatively empty, and the importance of Leh is not to be estimated by its resident population, but rather by the caravans of merchants from Thibet, or, still more, from Yarkand, Khoten, or other parts of Central Asia, which converge here in the autumn. It was a good many years since my last visit, and I was pleased by the generally well-to-do aspect of the chief bazaar. It is a fine broad street, planted with poplars, and lined with shops, where



Stakse

one may inspect the wares of three contiguous empires—China, Russia, and India. I hastened on to pay a visit to my kind hosts, the Moravian missionaries. Here they live, a simple colony of six or seven people, banished from civilisation as well as from the Fatherland, but content to make the best of their surroundings, and to do what good comes to their hands. And they have already gathered around them a few earnest converts from Lamaism, through whom a greater work may be done than any foreigners can accomplish. The Moravians have other missions to Thibetans at Kyelang and Po in British territory, and have long waited for an opportunity to cross the border of Thibet. Some of them have become the leading Thibetan scholars, consulted as such even by the Buddhist monks, and have done important work in translating the Bible and compiling dictionaries. It may well be that the small but growing native Christian communities at Po and Leh may be the means of evangelising Thibet, even if Europeans gain no access to that country. For a few months in summer there are a good many visitors—some sportsmen and some tourists. During our stay, the British Joint Commissioner gave a garden party, and Leh society assembled on his pretty shaded lawn to play Badminton. There were several ladies, whose fashionable costumes savoured little of the jungles; the French Consul-General from Calcutta; and Captain Kaye, the settlement officer of Kashmir; as well as a sprinkling of travellers. Shades of Moorcroft! What a gathering within sight of the snowy Khardong Pass! It brings home to one that, however vacillating

and short-sighted British policy may be, as when Moorcroft's intervention in Ladak affairs was disavowed some sixty odd years ago, time vindicates the inevitable supremacy of Anglo-Saxon energy. And now Captain Kaye has come with full powers to re-arrange the conditions of land tenure and taxation of Ladak and Baltistan.

In the case of both countries there is a good deal of poverty caused by ill-adjusted taxation, and by unrecognised burdens. This is due not merely to the Kashmir officials, who endeavour to feather their nest warmly during their tenure of office, but by the claims in Ladak of the monks, and in Baltistan of the various petty rajahs who still claim authority. There is a story told that a deputation of Baltis went with lamps lit to meet one of the Kashmir rajahs when he visited the country, and told him that their land was in darkness owing to the oppression they suffered. In a few years most of the abuses alluded to will have passed away, but the problem arising from the over-population of a land where the cultivable area is so restricted presents much difficulty.

The most notable building in Leh is the old palace of the Gyalpo, a very lofty and massive pile on the corner of a ridge overlooking the town. The ridge is crowned by a monastery, in which is a gigantic image of Buddha; its shoulders are level with the ceiling of the temple, and a separate room has been erected above to contain the head. Some distance from the town is the old fort occupied by the garrison of Ladak. There are some fifty sepoys of the well-trained Imperial service Kashmir troops, who were reviewed by the Joint Commissioner

Playing Polo in Leh Bazaar

and Wazir of Ladak during our visit. An English surgeon is in charge of the Government Hospital, where a good work is done, especially in operating for cataract. Dr. Graham's fame has penetrated across the Thibetan frontier, and drawn patients from Rudokh. A doctor is joining the Moravian mission, succeeding, after a rather long interval, Dr. Marx, whose grave lies in the little cemetery east of the city. Our stay in Ladak was saddened by the illness and death of Miss Irene Petrie, a most charming and accomplished young lady, who had been working as an honorary missionary for some years in Kashmir. Her grave lies near that of Bro. Redslob, a venerable Moravian of such a noble character and Thibetan scholarship as to win for him from some of the natives the title of "Khutuktus," an incarnation of the Deity. In Ladak there is more than one Khutuktus. The abbot of the monastery at Spitak is the principal one; he belongs to the Yellow sect, which is in a great minority throughout Ladak. Most of the monks belong to the Red sect, so called because of the dark red caps and gowns they wear.

The two great amusements in Ladak are miracle-plays at the monasteries, and polo. At Leh, polo is played in the main bazaar, all business being, of course, suspended. Our illustration is taken from below what might be called the "grand stand," where seats are provided for the chief officials and visitors. A native band provided with clarinets, drums, and huge trumpets, makes a joyful but hideous noise in celebration of each goal won by either side. The townspeople, grouped in the verandahs of

shops or the openings of side streets, take a keen interest in the game. The chief merchants or caravan leaders join with local officials in the contest. Some are pure Ladakis, others, called Arguns, are half-castes with Kashmiri or Yarkundi fathers.

Mohammedanism lends religious sanction to most irregular and temporary marriages, and the evil reaches its height in such towns as Leh and Yarkund. We may regret the unblushing vice of European seaports, but it is condemned by most classes of the community as well as restricted by the law of the land. In Central Asia no attention is paid to the restrictions on divorce made by their prophet, and there is no public opinion to condemn it; so that marriage is prostituted to the temporary convenience of a shifting population of various nationalities. It has been said that the Arguns inherit the vices of both parents and the virtues of neither. But this is not the opinion of those who best know Ladak, and who point out that the Arguns occupy good positions due to their intelligence and energy.

Among the Buddhists the women have much freedom, and the custom of polyandry prevails. This has the effect of restricting the population, which would appear to be actually decreasing: and there are large communities of monks and nuns bound to celibacy. In the choice of husbands an heiress has things much her own way, though she seldom cares to exercise her power of divorce. There are few countries in which the women carry so much of their property on their heads. As shown in the picture, they wear a hood with curious projecting side lappets of black astrakhan; on the top and hanging down the back

Thibetan Christian Girls at Leh

is a strip of red cloth covered with rows of turquoises and other precious stones set in silver. The turquoises are brought from China or India, and are not found locally; and though there are sapphire mines in Rupshu the stones are nearly all exported. The head-dress is an heirloom in the family, and though most of the turquoises have flaws and are of inferior quality they are large and numerous, and the head-dress is often worth several hundred rupees. Gold and silver necklaces, bracelets and anklets are also worn by the rich, regardless of discomfort.

CHAPTER XII

UP PANIMIK PEAK

Our cavalcade as it left Leh was an interesting sight. One member of the party was mounted on a little Thibetan pony, equipped with a bridle of old rope, and a high-peaked wooden saddle from which dangled huge stirrups attached by such short leathers that the knees of the rider were poked up towards his chin. One stirrup broke off in the first canter, and as the girths seemed likely to follow suit, and there were signs that the whole framework might fall to pieces, a halt was made in the middle of the bazaar, and another saddle, more substantial if less picturesque, was obtained. By the kindness of the governor of Ladak we had obtained yaks for crossing the Khardong Pass, which was not at that time passable for ponies. With their short legs and long bodies, shaggy manes, bushy tails, and formidable horns these animals look sufficiently wild and fierce. They gnash their teeth in an alarming and excruciating manner, hence their scientific name, *bos grunniens*—the grunting bison. On the upper plateaux to the east, herds of yaks still roam wild, and may long continue to do so, yielding prized trophies to the hunters of big game. The wild ones stand fourteen hands high, but the domesticated yaks are a smaller breed. They are very

useful as carriers in a region where other beasts of burden are not available, for they can pick up a livelihood by grazing in deserts were there is nothing to eat, and even that nothing concealed by snow; and on mountains they are as sure-footed among chaotic loose rocks as on a path. I was mounted on one

Our Yaks at the Foot of the Khardong Pass

of these for the ascent of the Khardong Pass, simply sitting upon a folded blanket, and grasping the animal's long mane so as not to slip off backwards. Our baggage was piled up on the backs of six other yaks, which may be seen in the foreground of the photograph taken by our artist as we left Leh.

The views, looking back, were very striking for several miles. Everywhere we saw the manis and chortens erected by Buddhist piety in remote times; rich fields of corn, now in the ear, were terraced along the slopes and across the valleys; by the town were the lofty groves of poplar, and the jutting towers of the palace of the Gyalpo (Rajah); and of the monasteries perched higher up the hills. Far down the valley was the silver streak of the Indus, beyond which are splendid ranges, now a deep azure crowned with snow. But soon we were winding our way up a narrow desolate glen, and by night reached a camping ground on the verge of the snows, where we soon lit fires, pitched tents, and made ourselves comfortable.

Before dawn next day we made a quick start, so as to cross the pass before the crust on the snow should be softened by the hot August sun. There were snow and ice all around, and the path was slippery in the extreme, but we reached the summit by seven o'clock, and were rewarded by a view stretching fifty miles or more west and east. West were the great snow-covered peaks of the ranges we had crossed, with the familiar cones of Nun Kun. East we turned to a new view, for the lofty Karakorums were in sight, unhidden by clouds, thrusting up craggy granite peaks 25,000 feet and more into the air. We lingered a while to take observations and photos., and then rapidly descended, partly glissading the still icy slopes.

This is the main road to Yarkund and Central Asia, but traffic is only possible for a brief space in the autumn, and even then the pass is sometimes not only difficult but perilous. On

the north face there is a snow cornice, portions of which break away from time to time and rush in overwhelming avalanches down the gulley and across the path. Only last year many men and horses of a Yarkund caravan were swept away and buried, their graves marked by the tossed up waves and pinnacles of ice which occupy the hollow, while the bones of former victims are extruded 2000 feet below into the dark and silent tarn which occupies the head of the Khardong valley. By the time we arrived there we were all suffering from headaches which accompany mountain sickness, and breakfast had for us no charms. We plodded on to a grassy place further down, where we flung ourselves at full length and sought rest. But the malaise did not pass off till we had descended some 5000 feet to the desolate uninteresting village of Khardong, where we pitched our camp in the shade of a few stunted willows. In the difficult ground near the lakelet above, where the snow beds were thawing and the path among loose rocks was not yet clear, the yak I was riding showed much intelligence, selecting the firmer parts of the snow, and remaining quite cool and deliberate in crossing places where the crust suddenly gave way under its feet. The shortness of the legs is then of great use, for the long body rests upon the surface, and without any jerk the animal can draw out the limb which has sunk in. The mobility and strength of its shoulders are very great. It is asserted that yaks can discover by instinct any hidden crevasses in a glacier, and for this reason in crossing an unknown and fissured snowfield a herd of yaks is sometimes driven in front to select the path.

It seems probable that by using their somewhat pointed hoofs, as it were, to probe in advance, they can discover crevasses without falling into them, just as an experienced guide does with his ice-axe.

It is but a short march from Khardong down to the Shayok river. From above, the gorge—down which the path leads—appears most uninteresting; it is so narrow as to exclude all view, and the mountain sides above are absolutely barren. But in reality the path is charming. A clear mountain torrent dashes through groves of feathery tamarisk, which in August are in full flower, giving off a sweet scent. Creepers of yellow clematis grow over many of the bushes, and here and there in the fragrant thickets are seen deep crimson roses. Little patches of green grass occur in level places, the more charming because of the aridity of the surrounding scenery. In such an oasis it was pleasant to linger; so we bathed, and enjoyed a picnic breakfast in the shade before facing the sands of the Shayok. Further on we had an involuntary bath. The stream spread out into a lagoon, where its waters were banked up by the sandy dunes of the valley. To cut off a corner, two of us tried to ford this on a small pony, but it fell in a quicksand, and we were precipitated into the water, boots and all. Laughing at the mishap we left the pony, which our *soi-disant* guide then took by a circuitous route, and struck straight across, not getting much wetter. The third member of our party following after us at some little distance went a a little to one side and suddenly went head over heels into a deep pool. However, we soon re-united, and in that dry air and strong wind our clothing speedily dried.

The crossing of the Shayok was accomplished by means of ferryboats. The river is quite 300 feet broad at Tsati, and is divided into two branches by a sand bank. The fierce slate-coloured water rushes down at a great pace, and one or two of our natives looked apprehensive of a calamity. The crossing took over an hour, as the ferryboats were swept far down the stream, and had to be towed up the opposite bank, and then make a return trip for the rest of our party and baggage. The ferryboats are kept up by Government, and without them the river would only be passable in the late autumn, or in winter when the water is very shallow or is frozen over. The Shayok valley is only inhabited below this part. From the ferry at Tsati to the sources, a distance of perhaps eighty miles, the valley is very wild and seldom if ever traversed, except for the small portion between the Saser and the Karakorum passes on the Yarkund road. A generation ago there was a great flood which has left its mark on the valley for a fortnight's journey down. It appears that a side glacier crossing the Upper Shayok dammed back its waters to a height of two or three hundred feet, forming a vast lake. But the following year the dam gave way suddenly, and a flood-wave of great height, carrying rocks and bushes with it, swept down the gorges, devastating any villages placed near the river, and even sweeping back up the Nubra valley, and ruining extensive tracks of cultivation by the immense deposits of sand.

The Nubra valley joins the Shayok at Tirit, where we encamped under the largest trees we had seen for a week,

some old and spreading willows. We were met by an official kindly sent by the chief or "Kárdár" of Nubra to assist us in obtaining supplies, and getting porters or ponies for the baggage. Accordingly there was much display of zeal, shown chiefly by awful howls from a peasant standing upon a neighbouring house-top, and whose lungs seemed to be of twenty horse-power. He proceeded to shout for his friends by name, addressing his remarks as if they were half-way up the opposite mountain, as they may have been. A Ladaki might well replace a foghorn. Anyhow, his efforts proved successful, and the needed arrangements were made. The strangest thing about Tirit was that the paths, well bordered by splendid thorn hedges, were everywhere utilised as canals, and streams of snow-cold water a foot deep filled the road. However, at the entry of the village, we were thoughtfully provided with gaily caparisoned ponies to carry us, and thus made an impressive as well as a dry entry. My services as doctor were soon in requisition as there were many people with sore eyes. Some of the chortens near this village were much neglected, and contained scores of the little clay medallions containing ashes of the forgotten lamas. So, of course, purely out of affection, I carried off a few medallions in my pocket to remind me of my friends at Tirit.

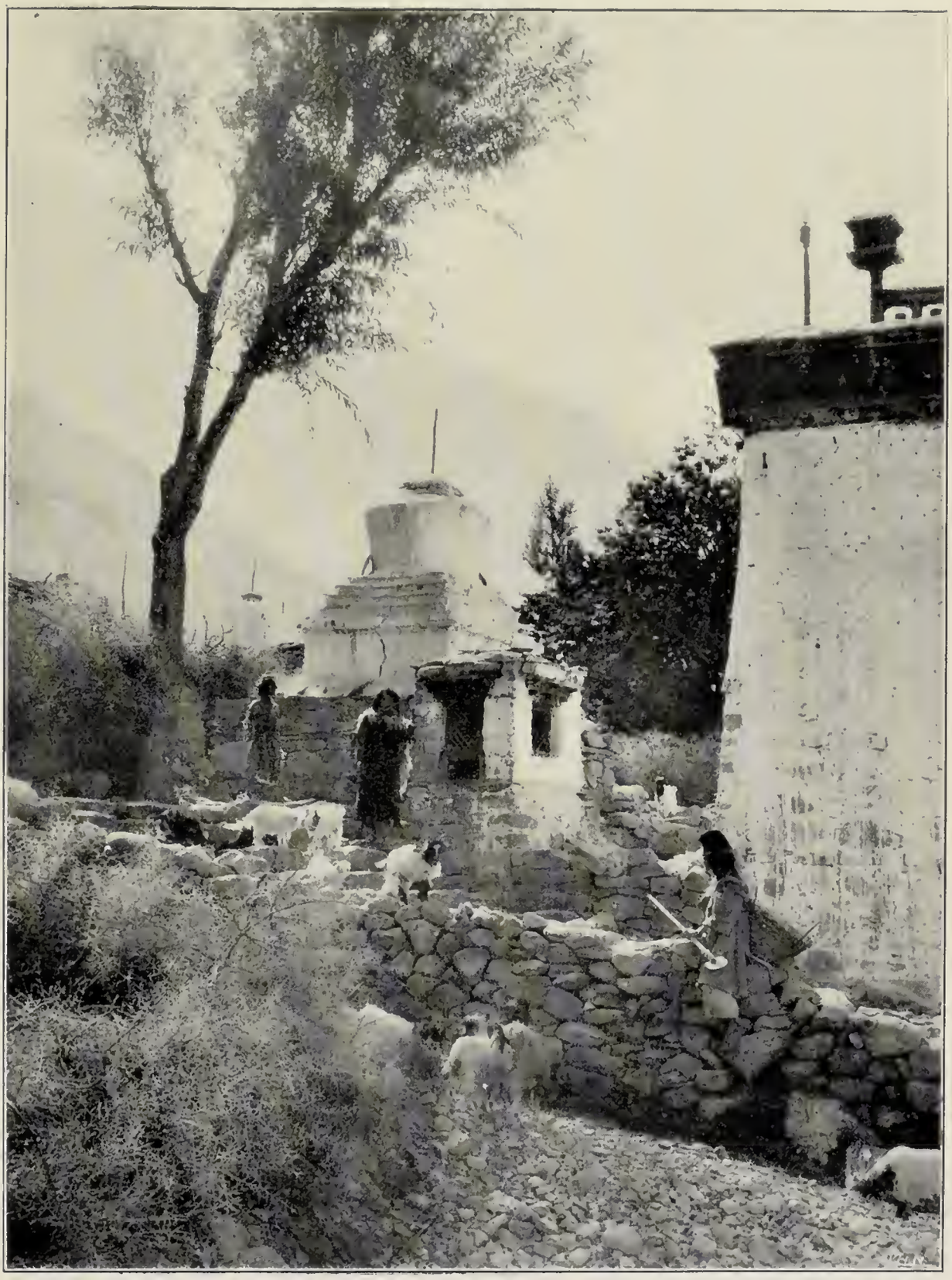
There is no part of Ladak more interesting than the Nubra valley, which, to the people of the barren uplands, or to those who live in the narrow gorges of the Indus or Shayok, appears as a veritable paradise. Not so, however, to the traveller from

Kashmir accustomed to the sight of forested mountains and rich pastures. Relatively to other parts of Ladak it is certainly attractive. From a climber's point of view it also has very special interest, although at first sight it would not appear so. On its east side are steep bare granite slopes ascending from the flat, partly cultivated, valley to a height of about 16,000 feet. The appearance is as of a continuous and unbroken wall; and there is no glimpse or hint of anything grander. But every few miles this wall is broken by narrow steep ravines, too narrow for any view, and so overhung at the outlet by beetling crags, rising almost sheer from the wild swollen snow-fed torrents that leap down the face of the dark cliffs, that access to the upper recesses of these gorges or "loongpas" would seem denied to any but the wild sheep and the eagles that inhabit them. The large volume of drab-coloured turbid water that rushes from these valleys testifies to the glaciers that feed the torrents, and looking upwards, not a tree and scarcely any herb can be seen in the wilderness of cliffs and talus. I could well believe what a noted sportsman had told me that these were among the most savage and uninteresting of valleys, and that at the upper end inaccessible ridges and peaks rose steeply from the large glaciers that filled the lower chasms. Natives of Nubra asserted that in the summer these valleys are rendered almost impassable by the unbridged and unfordable torrents. But to us it appeared certain that goat-paths would be found as far as the snow, as proved to be the case. We had one march, a long one up the main valley. For many miles it led over a sandy plain, partly covered by

thorny scrub; in places there were the graceful fragrant bushes of tamarisk, with their pretty tufts of pink flowers; then would come a rough stony walk across the alluvial fans which occur at the mouth of each side ravine, large portions of which are successfully cultivated. Like all other parts of Ladak, irrigation is essential to cultivation, and so porous is the soil that a large quantity of water is essential to raise good crops. The people grudge no labour that is necessary. The fields are terraced and hedged, and much care is bestowed on the manuring, ploughing, and weeding of most of the enclosures near the villages. Being warmer than Central Ladak, they can ripen apricots, apples, and walnuts in the brief summer; and even grapes will grow, though seldom coming to perfection. Some of the trees are of fair size.

Tigar is the chief place, and contains some imposing buildings —an extensive monastery, an old mansion built by former rajahs, and some temples. We were received in state by the dignified old Kárdár of Nubra and other local officials, who formally presented us with a sheep, some vegetables and fruit. We sat in a solemn semi-circle for a few minutes, but our luggage had already been sent on, and arrangements had been made for doing another march the same day, so we deferred a closer inspection of the place till our return journey. That evening we reached Panimik, the furthest village of any size in the valley, and the base of our expedition.

So efficient was the help of the purple-robed official who had gone on in advance to make arrangements, that by next midday our coolies were assembled and supplies for several days arranged



Prayer Wheels and Chortens at Tagur

for. I had a "confab" with the village greybeards, asking not about the lofty mountains at which we were really aiming, and about which they would know little, if anything, but about the highest grazing grounds to which they sent their flocks; and in this way we obtained information about the character of the upper valleys, near the glaciers. A lad, called by them a "shikari" or sportsman, but really only a superior sort of goatherd, volunteered to show us the way.

We travelled as light as possible, and so had but twelve porters with tents and other loads, and four others with provisions for the party. Some of them were too old for the work, but these were replaced next day. The guide pointed straight up the steep bare hillside, covered with *débris*, and showed us the line of our ascent; and a more toilsome one could scarcely be found. The whole slope was a mass of loose disintegrated granite; most of it mere grit or sand, in which one sank at each footstep, and, as it slipped down, scarcely any progress was made. After five hours' climbing, we still seemed but a rifle shot from the village below, and the men appeared very exhausted, resting every five minutes. But at last we reached firmer rocky ground, and turned over the shoulder of the mountain into a valley not marked in the map, as its outlet was so very narrow as to have escaped the notice of the surveyors. By dark we found a ledge beside the thundering torrent, where grew a few tamarisk bushes, with space, not for the tents, but for our beds, which we proceeded to arrange among the rocks. Here we bivouacked, enjoying the sense of the picturesque wildness of the scene,

which was soon lit up, not only by our camp fires, but by a bright, almost full, moon. A good meal, skilfully cooked, enabled us to appreciate the desolate and unusual position, and soon restored our porters to their wonted light-heartedness. It is the sense of contrast that enhances the beauty of an oasis in a desert land; and the comforts of good food and a warm bed are needed to intensify one's enjoyment of the grandeur and desolation of mountains. In a bivouac there is no selfish isolation; masters and men are all together, sharing alike, and thus get to know one another.

Tsering, our invaluable interpreter, now came more to the fore. Even on beaten tracks he had been very helpful, always cheerful and willing; dealing justly with the people, and yet preventing any attempts to cheat us. As a race the Ladakis are pleasant to deal with, frank, good-humoured, and free from suspicion; but Tsering was exceptionally good. Slighter in build than most Mongolians, he is also lighter in complexion. and has grey eyes; and although he often looks rather melancholy he quickly lights up, and always seemed able to make the best of his surroundings. He is a schoolmaster at Leh, but obtained special leave from the governor to accompany us. The Moravian missionaries have found him a useful man, and his frequent contact with them may have helped to make him the man he is. On our journey he had many opportunities of showing his sterling qualities.

Our path next day led up the valley, and we had not gone far before some burhel were seen far up the opposite slope. We

could see two or three resting in the shade of a big rock, but before the sportsman of our party could get within shot, although the stalk which we watched was skilfully made, the animals had gone off to seek better shade during the midday on a higher shoulder. Our valley began to open out, and we emerged on a series of small grassy meadows, evidently old moraines and lake-beds, where now are some shepherds' huts. The elevation is about that of the summit of Mont Blanc. Here the valley turned S.-E., and at the head we saw lofty ridges and domes of purest snow from which glaciers descended. On either side were very precipitous mountains, those on the south being very impregnable with their ice-cliffs, and with their ridges guarded by splintered rocks and gendarmes. At this grazing ground our coolies wished us to camp; but pretending to know the valley by the map, which was, as a matter of fact, quite erroneous and misleading, we confidently told them that there was a small lake further on by the foot of the glaciers, and that we would camp there and allow most of the coolies to return to the hut at night. The guess, or, as it might be called, "scientific induction," was accurate, for the goatherds knew of a lakelet which we reached in another couple of hours' steady but easy ascent following the well-marked sheep paths. It proved to be about half a mile long, and there were other ponds near by, with some flat ground off which snow had recently melted, and on which many little alpine flowers were already springing up. Here we pitched our base camp, the tents well pegged and fastened down with large stones. Some of the coolies remained with us, and we lent them a tent to sleep

in; others returned to the goatherd's hut at Spanjuk to fetch more fuel. The position of our camp was carefully chosen as we intended to rest there the next day, Sunday, while becoming acclimatised to some extent. The elevation was just under 17,000 feet. Immediately across the lake was a hanging glacier. To the S.-E. the valley was closed by a huge dome of snow, its steep sides rent by schrunds and ice-falls, and its summit corniced. To the east glaciers sloped gently up to a snow ridge, whose summit must be 22,000 feet above the sea. Even beyond our camp, and on the moraines of the glaciers, shepherds have erected small cairns which they call "jayor" to mark the path in cloudy weather. But in the matter of weather we were persistently fortunate, enjoying cloudless skies, and being able to fix our position in relation to the distant peaks which could be recognised on the map. We made various other observations, to examine the effect of the altitude upon ourselves and our men; but we did not experience any special breathlessness or other symptoms of the *mal des montagnes*, which Ladakis call "pass sickness."

At this base camp we left everything not urgently needed, all spare clothing, camp bedsteads, and the Kabul tents; in fact, we reduced our personal luggage to about twenty pounds apiece; but it was necessary to have shelter tents for the porters as well as ourselves, to take warm bedding, especially our foxskin sleeping bags; then the camera and other scientific apparatus, the ice-axes and crampons were now needed, and three days' provisions were arranged for. So we needed six porters, to whom we gave very light loads, so as not to

impede their climbing. On our march next day we proceeded up the valley for some hours, skirting the side glaciers and ascending steadily. About midday, a wild lateral moraine was crossed, and we struck the main glacier, which was at that point a mile or more in width. For the first time we now saw clearly one of the highest peaks of the Saser Mountains, which rise to 25,000 feet. Our valley led N.-E. straight towards the distant but fascinating dome. Progress was slow, and a hot sun beating upon our backs seemed to enervate us, while it thawed the surface névé, and so drove us on to the central moraine. In an hour or two we reached the upper end of this, and struck across the open snowfield. In places the walking was very fatiguing, as we constantly broke through the crust into a mixture of snow and water, two feet deep. Sometimes the water flowed on the surface, disappearing in some neighbouring pit. Crevasses were very few, and easily avoided, and although we were roped, the precaution was scarcely necessary.

On a side moraine we found a suitable spot for camping, where, sheltered by a big rock, there was an almost level bed of ice. Selecting some large flat slabs, we were able to make sleeping places for ourselves and the coolies, and fixed the lighter tent like an awning from the top of the rock, so as to give us ample space for moving about. We were now at a height of nearly 19,000 feet. The boiling point of water was below 180 degrees. Our coolies, who had walked pretty well, seemed quite contented, although one or two of them had suffered from

the altitude. They settled down quickly to sleep, huddled together for warmth under the tent which we gave them, and which they did not erect, but used like a big blanket to cover them entirely over, heads and all.

Our cooking operations extended far into the night. It seemed as if the oil-stove gave hardly any heat, and that the water would never boil. In fact, when it was only lukewarm we made some cocoa, and then proceeded to warm up the Irish stew. Progress was very slow, and next morning much time was lost in melting the now-frozen stew and getting water. Before starting we had to set back the indicators of our aneroids, which marked the big-rock bivouac over 21,000 feet. We set the hands back to 18,800, the correct height by our reckoning, and thus were able to continue using them. The sun was very trying in that narrow valley entirely filled with dazzling snow, and at first I felt quite unable for any severe exertion, and rested after every hundred paces, although my companions were fairly well. Tsering, the interpreter, had not complained before, but now he lay down on the snow; so he was sent back, and we took only the "shikari" with us. The valley apppeared a *cul de sac*, and we ascended a fairly easy slope on the north, having to cut a few steps over the ice at one place. By 12.30 we were on top; the aneroid marked 3500 feet above the bivouac, but the height was probably little over 2000 feet above it.

By resting for a while in the shade, I quite recovered from my headache, and even got an appetite for the tough cold

View from Summit of Panimik Peak

mutton and dry crusts we carried as our lunch. And then roping, and carefully avoiding the huge but very rotten cornice, we worked our way up to a splintered top, which we christened Panimik Peak, from which a most marvellous and impressive view was obtained. In front of us, and everywhere cutting off the peaks of our nullah from the central Saser range, was a sheer abyss, 2000 feet deep. We looked down on to a vast glacier, part of which drained to the west of us into the Pokachu valley, and part (as we discovered next day) into the Chamshing valley, east and south of us.

Further advance, even for ourselves, leaving our coolies and baggage out of account, was quite impossible; and, even were it practicable, all thoughts of attaining to a greater height were forbidden, as we looked at the great ice-bound giants that rose so impressively, sheer from the glaciers, just as some lofty, cliff-girt island stands out from the stormy ocean. We were awe-stricken as we gazed. The nearest peak was also the highest; it rises to over 25,000 feet, and is somewhat table-topped, with lofty ice-cliffs at the summit overhanging the precipitous sides. The other peaks, each over 24,000 feet, were quite separate, and lay further away, and to the east and south-east.

These great peaks may be regarded as the extreme east termination of the great Mustagh range, which extends from here to the north-west, culminating in the lofty peak known as K 2, or Mount Godwin-Austen, and beyond that blends with the Hindu-Kush.

The only pass at present practicable in this range is the Saser Pass, from the Nubra to the Shayok valley; and as we studied the conformation of the mountains, it appeared to us that it is near the Saser Pass that the next attempt to climb should be made. We could see a somewhat easy ridge which ascends from that pass towards the highest summit; but we had not time to perform the long detour of a week by which that ridge might be approached.

Next morning we once more explored the head of the valley, making an early start before the sun was up. Millais went up again to Panimik Peak, and obtained beautiful full-plate photographs of the view; and Tyndale-Biscoe measured a base line on the level snowfield to help in the mapping of the valley, hitherto unsurveyed. I ascended to the narrow col facing east. The snow was in fine condition, and we were so far acclimatised that the ascent was made almost without halting; where the slope was easy we took eighty paces a minute averaging over two feet each. The crampons came in most useful on the steep, frozen surface, up which without them it would have been necessary to cut steps. On the top of the col I boiled water at 178 degrees, and took a sphygmographic tracing of my pulse. When resting it showed very little alteration from its usual condition after exercise in Kashmir. As a rule I took such observations on my companions and myself while resting in bed in the morning. On this col, at the height of over 20,000 feet, my pulse was much as when climbing at about 8000 feet, 75 per minute when resting, and 100 per minute when slowly ascending. The

respirations also varied from 14 per minute when at rest to 25 per minute during exertion. These observations tally with those of Whymper when he was at great heights in the Andes; and differ much from the statements of de Saussure, who says that on Mont Blanc his party suffered much from breathlessness, and that even mental work was exhausting. He wrote—"I was compelled to rest and pant as much after regarding one of my instruments attentively as after having mounted one of the steeper slopes." Balloonists have also experienced severe trouble from the rarefaction of the air at heights much below 20,000 feet. So the legitimate inference appears to be that men may, under favourable circumstances, become rapidly habituated to living at an altitude. In many parts of Ladak there are goatherds who spend the summer months at a height not less than that of Mont Blanc. Such men would probably ascend another 10,000 feet with little inconvenience from the diminished pressure and decreased amount of oxygen inhaled.

Beyond the col was a sheer drop on to the head of the Shamshing glacier. I threw a stone which fell 1500 feet on to the ice, scarcely touching any point of the cliffs. The view I now got of the more southerly peak showed an exceedingly difficult pyramidal mountain. I made a rough map of the peaks and glaciers, and then returned to the camp in three-quarters of an hour from the col. Starting quickly before the surface was at all thawed, we rapidly descended the glacier, and soon after midday reached our base camp, glad to be once more in comparative comfort.

CHAPTER XIII

IN THE NUBRA VALLEY

It did not take us long to retrace our steps. The great stone slide which had taken five hours to ascend was descended in half an hour. The village of Panimik looked quite fertile to us, with its hayfields gay with flowers, and its shady willows. Near the village is a hot spring where baths have been constructed. I sallied forth with pleasant visions of a warm plunge bath, to be speedily disappointed. The water was scalding hot, with a temperature of 150° Fahr., which is more appropriate for lobsters than for men. No doubt with patience and some knowledge of engineering one might have brought a stream of cold water to the bath. But I was content to examine its qualities by other methods than immersion. There was a saline deposit round the hot springs on the hillside, of which I collected a specimen. It appears to be an impure carbonate of sodium, of which considerable quantities were formerly collected near Panimik and exported to Kashmir. The spring is not so copious as those of Chutrun in Baltistan, and has not the same reputation among the people for the cure of rheumatism and dyspepsia. An important factor in popularity is not found at Panimik. There is no temple or shrine in connection with the spring, hence there are no monks or

moullahs specially interested in its development. At Tagur, which we reached next day, a stay was made to enable me to do something for any sick or blind people.

There were some monks in the large Samtanling Goupa suffering from cataract, these were sent down for me to operate

A Backwater in Nubra Valley

on them, and then I was invited up to the monastery. It is beautifully situated; not like most, high up on the top of a jutting barren rock, but in the fertile mouth of a gorge, where terraces have been levelled, now covered with plantations of poplar and

willow, and abundant apricot and apple trees. A little lane bordered by a hedge of wild roses led up to it, and on the banks of the clear rivulet beside the path were many familiar flowers and fragrant thyme. The view over the valley extended, and soon we looked across the cultivated area, with its rich fields of wheat, and across the many branches of the broad river to the fort-crowned rock of Charasa, and up the valley to the mighty masses of rock and snow that divide Kashmir from China, and down the valley to the broad sandy plain where it joins the Shayok, and where the two great rivers sweep to the west in deep narrow gorges ever shadowed by the great ridge of Central Ladak. One peak, which rises some 12,000 feet sheer from the river, was especially beautiful, with the soft blue haze half hiding its base, and the clear cut pyramid of snow catching the sun and reflecting in tender yellow or pink tones the ever-varying hues of the sky from morning to twilight. There is a virgin charm, a mysterious beauty, about such nameless heights, where no man's foot has ever trodden, quite different in kind from that sense of power and awe which creeps over us as we gaze upon the Jungfrau or the Matterhorn, with their historical associations.

The great U-shaped trough of the Nubra valley, several miles wide at the bottom, is characteristic of glaciated valleys. At a height of over 2000 feet up the slopes on either side there are abundant remains of an ancient lacustrine deposit; the horizontal line, of a coarse grey clay, is seen here and there for twenty miles up the valley, and on both sides. Probably some part of the Shayok valley had again become blocked; the deposit

High Altar in Tagur Gonpa

was again eroded, and then once more a lake was formed, of which the beach markings and shore caves may be traced high up the hills. Boulders the size of a house are perched about the steep slopes, and polished rounded surfaces of trap in the lower parts of the valley witness to the age-long grinding of the glaciers.

To return to the monastery, the monks gave us a warm welcome and showed us over. This is one of the chief centres of the Yellow, or reforming, sect in Ladak. Most other monasteries belong to the Red sect, in which discipline is less strict and morals more corrupt; in fact, scandalously so. In this "Gonpa" the monks are said not to eat meat nor drink beer. The abbot or "Hlobon" was a handsome old man, of ascetic appearance, with a shrewd, good-humoured face. He has distinguished himself by the vigour with which he has extended and beautified the monastery, building more than one new chapel. So far has Lamaism departed from the tents of Buddha that even abbots are, after death, deified; and the images of former abbots, together with those of famed heroes of the legendary past, share with some stately and other hideous and obscene idols, the daily worship and reverence of the monks. In the temple there is a double row of images, small and big, opposite the entrance. They are made of lathes and plaster, with a covering of cloth and lacquer work. Before each is an altar on which is placed the daily offering of grain, flour, oil, and water. The whole surface of the walls is covered with brightly-coloured and most fantastic frescoes. Around the various sitting

figures of deities, uninteresting and conventional, which occupy the main panels, are many weird and forcible paintings, where skeletons are seen wrestling with one another, where demons struggle with men on horseback, and heroes endeavour to release the tortured souls of men. We have a grotesque Mongolian version of the people of Lilliput and Brobdignag; giant demons, with the tiny contorted figures of victims poking out of their hands or writhing under their feet. These pictures depict

The Skeleton Wrestlers

such scenes as the Lamas love to dramatise. At most of the monasteries there are great festivals, to which people resort from far and near. At the chief monasteries hundreds of monks join in the pageant, which is thoroughly suggestive to us of Christmas pantomime.

I saw a Lama drama on one occasion at Srinagar. The monks wear huge lacquer masks representing demons and gods,

mostly hideous, but all grotesque. Rich and highly ornamented robes of bright silks and satins are kept for these occasions. Demons with scarlet tights, masks, and tails rush in crowds upon the arena to attack and seize the unprotected souls of the dead, which are represented by almost naked, shivering forms fleeing before them. Sometimes an effigy is tossed about, tortured, and burnt by them. Then the gods and heroes, sword in hand, their entry announced by wild flourishes of trumpets, rush in and drive away the evil spirits; and so, hour after hour, the play goes on, interspersed with monotonous chanting and dancing.

The masks and dresses used in these ceremonies may be seen hanging up in corners of the temples; around the sides are arranged the various musical instruments employed in their worship, gongs, bells, flageolets, and trumpets. Some of the trumpets are telescopic, and can be extended to a length of seven or eight feet; and when well blown, the brazen booming resounds among the mountains, awakening the echoes.

Prayer wheels abound on all sides. These contain in endless repetition the prayer, if prayer it can be called, "*Om mane padme houm*"—"Oh! (God) the jewel in the lotus." One of the very largest of these prayer cylinders is in a temple near the village. It is eight or nine feet high, and is *supposed* to be kept turning by water. As a matter of fact, it needs to be started by hand, and even then the water power is insufficient to keep it going for many minutes.

Water power is, of course, abundant in these mountainous regions, and, considering how seldom it is thus utilised, we may

infer that the people do not put faith in such purely mechanical and automatic prayers.

Smaller wheels turned by the wind are numerous; there may have been nearly a hundred round the flat roof of this same temple. But the hand prayer wheel is the most popular; there is something personal about it; it demands effort, however slight and reflex, and is believed to avert evil from the individual who carries it.

We must lament the degradation of such superstitions; bu are they not better than the blank negations of materialism? Lamaism must decay, is decaying, in contact with the outer world. Mohammedanism makes slow but steady progress wherever it has gained a foothold. Thibet is shut to all intruders, but even Thibetan jealousy cannot exclude western literature. We have heard that in Lhassa itself a learned monk obtained a Bible and embraced its doctrines.

The influences at work are sure, if slow. Institutions will be changed. The monasteries cannot retain their power in Ladak. When the settlement is revised, the peasantry will gain, but the Lamas will lose position and prestige. Polyandry cannot long survive the light of free contact with other peoples, and it is likely that the balance will be struck between the polygamy of Islam and the polyandry of Thibet, and that monygamy will be the general outcome.

In Nubra we saw many pleasant features in the people, who now thronged to me for medicine; they were always courteous, good-humoured, and grateful. They laugh merrily; a rare thing

among Mohammedans. We saw no drunkenness. The "chang," a light beer they make from barley, contains very little alcohol, and it is only intoxicating when taken in very large quantities. The squire of the village each day sent us a fresh supply in a handsome flagon.

Patients followed even to the Shayok, and so fervent were their petitions that I consented to operate for cataract while waiting for our baggage to be ferried over the river. In order to sterilise my instruments by boiling, fire had to be obtained, in the absence of matches, by recourse to flint and steel, a little gunpowder, and a bit of rag torn on the spot from a man's shirt. A primitive, but satisfactory expedient!

We made a rapid return journey, without special incident, doing two marches a day.

THE END

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